

No. 35

Field Book  
of  
Willis L. Jepson

1918

Revard for return to  
Berkeley, California

1874



Berkeley, Feb. 7, 1918. 1

→ Miss Alma Ames, who is just in from new. Cal. on her war work, says: "Mrs. R. W. Austin is still living. She is about 90 or past. I met Mrs. J. B. Largent who was Mrs. Austin's companion on botanical journeys in early days in Modoc Co. They took provisions and went off on two-day trips, two or three trips, or more. They had thrilling adventures with highway robbers and horse thieves. They made ten to fifteen dollars a day out of their work. Their plants were sent to Watson. Mrs. Largent now lives at Lake City and has a great admiration for Mrs. Austin whom she des-



cribe as a very wonderful woman. She, Mrs. Austin, had been trained in medicine and in that pioneer country found abundant <sup>uses</sup> for all her knowledge. Mrs. Austin still possesses her own collection of plants.

"Near Gold Lake stage station, but on the Downsville side, I saw a tall Douglas fir. I could not believe that a fir could grow so high."

- *Scirpus robustus* Pursh. A plant labeled *S. pacificus* Britton disclosed 2 achenes in one flower, the ~~flowers~~ <sup>achenes</sup> partially fused laterally!! A curious case of teratology, Parish no. 6398, San Bernardino. This anomaly was found at the base of the spikelet. - Feb. 22, 1918.

- Mrs. A.L. Grant has just returned from a visit to Stanford. She says that she found so many Rattan plants in the Dudley Herbarium that she is certain the <sup>Rattan</sup> collection is there. One-third their Minimus sheets (aside from Parish's coll.) are Rattan plants. And so <sup>with</sup> many other genera. Many of the Rattan plants have no data whatever on the label except "Rattan Herbarium". The spms. are usually very fragmentary. - Feb. 11, 1918.

- In reply to a query McBride writes from the Gray Herbarium: There is one spec. (by Lemmon) of *Gentiana* "affinis" in Gray Herbarium, the label "in Gray's hand". The printed label bears the heading in print: "Sierra Co. Cal., California. Coll. J. G. Lemmon. 1874" and the written number "697" and in one corner: "Syn. Fil. N. Am." written in.



Berkeley

Common Names of  
Modoc Co. Plants.

- Cut-leaf Balsam = Balsamo-  
rhiza Hookeri (Nutt.) Also calls  
"wild Carrot" by the folk.
- Trifolium megacephalum =  
Bighead Clover.
- Fritillaria pudica = Yellow Bell.
- Bulb Grass = Melica Bella
- Phlox diffusa = Prickly Phlox.
- Festuca idahoensis = Blue Bunch.
- Kohlaria cristata = June Grass.
- Bromus hordeaceus = Soft Chess.
- Epilobium obcordatum = Rock-fringe.

- Daniel Cleveland's herbarium,  
given to San Diego Society of  
Natural History. cf. Woodcock in  
litt. Mar. 10, 1918.

Feb. 1918

- *Ceanothus prostratus* Benth.  
Stodding says he has not seen  
this at all in the southern Sierra  
Nevada, not even in the Yosemite  
region. It is replaced in the southern  
Sierra Nevada by *C. diversifolius* Kell.  
He noted *C. fresensis* Dudley near  
Mariposa Big Tree Grove; it extends  
south to the San Joaquin River, I  
think he said. One of the things  
which struck him in the Sierras  
was the absence of *Chamaebatia*  
*millefolium* from the forest  
floor. — Feb. 14, 1918.

- <sup>C. L.</sup>Hill of the Forest Service comes in  
with the representative <sup>(Hirsch)</sup> of an Eastern  
manufacturing firm who wants  
to use "burls" of California Chap-  
arral for pipes. The wood must  
not be straight. He has tried the  
root-crown <sup>swellings</sup> of *Ceanothus spinosus*



Berkeley.

with considerable success. He had with him a manufactured pipe of that wood. It looked very well-like cherry burl. He says there isn't much *b. spinosus*, from a commercial standpoint, but that it has distinct globe swellings.

I called attention to the root-crown of *Arctostaphylos glandulosa* but Hirsch claimed it was useless through too much burning. - Feb. 15, 1918.

Oakland Hills - 3 Mar. '18

- *Baccharis pilularis* is the pioneer on naked hot slopes on Palo Colorado Ridge. Next comes into the association *Phacelia californica*, *Rhus diversiloba*, *Rubus vitifolius* and *Pteris aquilina*.

*Arctostaphylos andersonii* is nearly out of flower. *A. glandulosa* in full fl.

March, 1918.

- Lightning, effect on trees. Dr. Menzies lectured last night (Mar. 5) before the Botanical Seminar. He considered *Arbutus menziesii*, *Penodolenga taxifolia* and *Libocedrus decurrens* and showed specimens. Lightning shows permanent records in the wood and bark. The innermost bark & wood are poor conductors, but the new wood (full of water) and the outer living bark are good conductors. The cambium, the inner bark full of fats and oils, the dead outer bark are poor conductors. The lightning follows a path down the spring wood rays, and kills the cells along the line of this path by desiccation. The effect of lightning is extremely desiccating, far worse than frost which is a slow process comparatively whilst lightning is instantaneous. About such injuries in the spring or summer wood as in the outer bark the tree forms



a corky jacket or phelloderm layers. These injuries appear on healing as "stalacmites" and are clearly to be distinguished from normal tissue or from burned tissue, wind shakes or disease tissue. They appeared, from the apex, passed about, as if they were short, like a stout cord only a few inches long, tapering off to both ends. [Perhaps the lightning "jumps" as appears on the outside of the bole where the bark is not torn off continuously.] In some cases the shock may spread around the circle of the wood, thus making a false ring, i.e. the seasons growth would show two rings apparently instead of one. In *Abies concolor* there is induced certain pathological

results such as the formation of resin ducts which do not occur in normal resin wood at all. On account of the prevalence of lightning in the Sierras many the boles, perhaps the great majority, are full of these mostly minute shock records. Meinecke showed a lightning map of California, showing areas of most frequent strokes. The most frequent zone is that of the Sierra Nevada granite. The map was colored for the San Gabriel, San Bernardino and San Jacinto high mountains; not at all for the Coast Ranges except the high "Klamath", or as Meinecke called it, Liskiyou area. This area, he said, he found very involved and complicated, a statement of interest on account of its little understood biological character which depends on its geological history and its topography.



Berkeley

- The Western Society of Naturalists met here Mar. 19 & 20. Kings of Washington and Board of Oregon are here; also McDougal. Peirce came up from Stanford and brought Bartholomew (Univ. of Wisc.); also Abrams, <sup>came</sup> the next day. We had a dinner at the Hotel Carlton, the evening of Mar. 19.

At the first day's meeting Peirce talked <sup>instructively as well as</sup> very entertainingly on his work on smelter fumes and cement dust in relation to vegetation. He said that near Keswick he found the least injured plant by far was Poison Oak and that *Zygadenus* came next! Ledyard, who is employed by the great smelters at Salt Lake assailed Peirce's views to me personally after the meeting! Some one tells

March, 1918.

me, - it was Ledyard - that E. B. Copeland has returned to this country from the Philippines and is now raising rice near Chico.

- A list of plants of Shasta, Lassen, Tehama, Plumas and Butte cos. has been sent me by R. H. Boesker, formerly of the U. S. Forest Service, in that region. The following are of interest.

- *Franseria californica* Torr! Tehama Co. foothills!
- *Juniperus californica* Carr. Reported from the foothills.
- *Populus balsamifera* L. Hot Creek Lake beds and vic. of Burney, Shasta Co.

- Teratology. *Delphinium latum* Heller, from Stemple Creek, Marin Co. Mar. 29, 1918, Rose Linbaugh, shows 1 or 2 or possibly 3 minute <sup>or small</sup> spurs at base large spur! We may well assume that Larkspur once had two spurs and this



Berkeley, Apr. 7, 1918.

condition may be looked upon as a reversion.

- *Hamolhis sorediatus* <sup>H. A.</sup> The fine lot of trees in Jimbrush Gulch, Telegraph Canyon, have been killed outright by fire since last October. The tallest one I notice is 14 ft. h.; the trunks vary from 1½ to 5 in. diam. at 6 in. from the ground.
- *Prunus emarginata*. Killed by same fire. Crown-sprouting just now beginning. Bodies killed above crown apparently. This lot <sup>shrubs</sup> apparently <sup>came</sup> from seed.

- Gibbons, Dr. Wm. P., first President of the Tuolumne Co. Association.
- Lang, Hist. Tuolumne Co. (1882). This was in 1869.

- Avalanche Lily = *Erythronium montanum* sec. J. B. Flatt who describes its occurrence on mt. Rainier in Williams' "The Mountain that was God."
- Economic native plants. Cf. Drink Plants of the U. Am. Indians (Bull. Torr. Club, 23: 33-46 (1886)).
- Lightning and Forest Fires. U. S. For. Serv. Bull. 111.
- *Antirrhinum coulterianum* Benth. Stem or main axis 29½ inches high, remarkably fistulose, not only below but also when the flowering axis or raceme. Lateral sterile branchlets not fistulose. Leaves on main axis excessively large. mts. near Claremont, C.A. Baker 5244, spec. in U.C. herb. Only case of teratology I have observed in *Antirrhinum* of the native species.



- No. 7450. *Geranium molle* L.  
Petals rose-pink, deeply  
emarginate or rather with  
a short cleft. Stamens with  
filaments lanceolate dilated  
towards the base; purple  
anthers; purple stigmas.  
Petals with a small short  
tuft of hairs at base.

Dough.

- No. 7451. *Nemophila parviflora*  
Cor. tubular-campanulate,  
pale or, rather, faint lavender,  
quite glabrous inside and  
quite destitute of scales. Sum-  
mit of ovary with a close  
white tuft of straight hairs.  
Shade of woods in cañon  
bottoms.

= *M. latifolia* Poir.

- No. 7452. *Myosotis sylvatica* Hoffm.  
Cor. bright blue. In woods near

Marin Co

mill Valley Foun. Perennial!

- No. 7453. *Deudrouncon rigida* Bth.

[Nos. 7454 to 7553 omitted.]

- No. 7554. *Calochortus umbellatus*  
Wood. Petals pale lavender or  
white. Open <sup>very</sup> grassy spots in woods.

- No. 7555. *Phacelia*

Cor. pale blue, darkening in drying.  
Sunny banks, open spots in  
chaparral.

*achilleaefolia* Benth.

- No. 7556. *Gilia multicarinata* Benth.  
Cor. pale or whitish blue.

- No. 7557. *Claytonia spathulata*  
~~*Alouatta*~~ Dough. s. l.  
Fine gravel-sand banks, on the  
serpentine.

- No. 7558. *Lupinus nanus* Dough.  
Cor. blue. Large white spot on  
banner aging to dark purple.

- No. 7559. *Lotus subpinnatus* Lag.

*Dichelostemma pulchellum*

- No. 7560. *Brodiaea capitata* Benth.  
Flowers deep blue to very pale;



stamens 6, the alt. anthers very small.

No. 7561. *Thysanocarpus curvipes* Hook.

No. 7562. *Iris douglasiana* Herb.  
Petals & sepals purple! with purple  
varies in center on a white ground.  
Also white, cream, lavender!

No. 7563. *Erodium cicutarium* Bertol.

Cor. pink. Taking the pasture  
on the opens about Rock Spr.,  
the plants occupying acre or  
half-acre spots exclusively and  
very small where crowded. Abundant  
elsewhere in places where  
it is not dominant. Making  
colored shadows on these hill-  
slopes. Edge of the wagon road  
it is prostrate! or rather, the  
rosettes are more highly de-  
veloped and prostrate! As  
thick as the ground <sup>as closely</sup> as one ever sees  
*E. cicutarium*. See p. 16 a seq.

No. 7564. *Baccharis*

Most abundant near rocky out-  
croppings. Rock Spring.

No. 7565. *Trifolium californicum* <sup>*T. dichotomum*</sup>  
var. *turbinatum* Jepson. <sup>(= *T. dichotomum* var. *turbinatum*)</sup>

Open hills near Rock Spring.

No. 7566. *Sherardia arvensis*

In the woods, under oaks,  
near Rock Spring, behaving just  
as if it were a native. Cor.  
pale lavender.

This trip to Mt. Tamalpais  
was made with the Bot. 104 class,  
going by way of the Fire Trail  
to the top of the Muir Woods  
ridge thence along the Pipe  
Line trail to Rock Spring. The  
flowering of *Iris Douglasiana*  
was particularly exquisite, and  
the colors very varied and deli-  
cate. One of my students,



Cont.

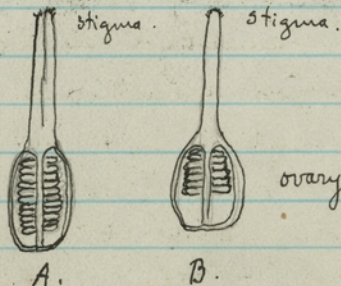
Miss Edith Lee, was struck by the odor of the foliage of *Erica arborescens*, its sweet full pungency. The odor of the crushed leaves of *Eriodictyon glutinosum* is very satisfying; one of the students remarked that he did not like it; but I told him that appreciation came from association; it recalls the chaparral of many a mountain range, the hot trails and the warming campfires.

- *Eriodictyon Botrys*. Corolla change from pink to blue in drying! See 7562.

- *Picea sitchensis*. Zone 12 miles long on Mendocino coast; thickest about Caspar. - Robt. P. Brandt.

Apr. 1918.

No. 7567. *Dichelostemma pulchellum*  
~~*Ornithoglossum capitatum* Benth.~~  
Berkeley, Apr. 23, 1918.



"A" is more common than "B"; but there appears to be always an empty space at the bottom of each cell as in "A."

- Alf Egeberg Traasen, Docent in the Royal Institute of Agriculture at Aas, Norway, called this aft., May 4, bringing a letter from Dr. Erwin Smith, Washington. I showed him my courtesy and gave him a letter to Luther Burbank.

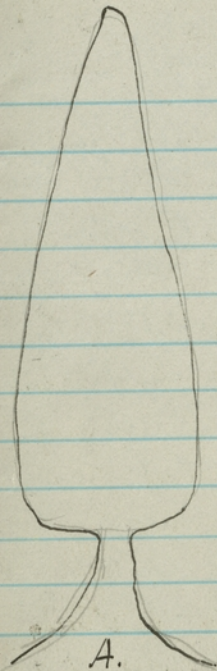


— Browse shrubs. — Migner of the U.S. Forest Service, Modoc Co., came into the office today to obtain info. to the grass literature. He says the principal browse <sup>shrubs</sup> in his district are Buckbrush, Snowbrush and Mahogany. The Snowbrush is *Ceanothus velutinus*. I suppose, or *C. cordulatus*. Probably the latter is his Buck-Brush.

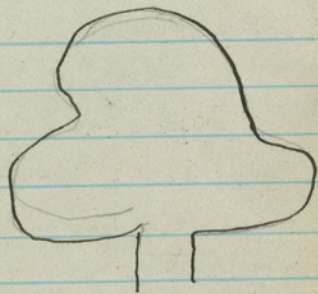
Mahogany is *Cercocarpus ledifolius*. He says half his grazing forage is browse and that Mahogany is browsed in the winter.

Migner says there is a strange form of *Juniperus occidentalis* 3 <sup>mi.</sup> SW. of Round Mt. It is called the "Pretty Tree". He states that it is a famous tree in the region, and that no woodsman would think of putting an axe into it. It is 35 or 40 ft. h., very tall for the region.

May 8, 1918.



A.  
"Pretty Tree".



B.  
Ordinary form  
of *Juniper* of  
the region.

↑

It grows at a spot about 8 mi. n. of Alturas.



- The following were received today  
from Mrs. Julia P. Betts, San Bernito:  
*Cercocarpus parvifolius*.

*Ceanothus integrissimus*, the small  
leaved form of the inner Coast  
Ranges.

*Trichostema lanatum*.

\* = Lorenzo Creek near  
Hernandez Valley.

May 15, 1918.

- Oak galls. L. H. Wold, North-  
western University, is studying galls  
on Pacific Coast oaks. Traveling for  
U.S. Bur. of Entomology. He finds 54  
species of galls on *Quercus chry-  
solepis*, more than on any  
other, as perhaps all other oak  
sp. of Cal. He finds much the  
same sp. on *Q. lobata*, *douglasii*,  
*dumosa*. He finds a gall on  
the young gall-produced acorns  
of *Q. agrifolia* and which acts  
in such a manner as <sup>caused him</sup> to think  
*agrifolia* was a 2-year tree.  
He is trying to find a gall of

size sufficient to use for ink in  
place of the oak-galls formerly im-  
ported from Aleppo. He did not  
find many oak-galls, coming  
north, about Paso Robles; not  
till he reached Las Jatas did he  
see loaded trees (*Q. douglasii*). He  
has not seen any galls on *Q.  
densiflora* which is singularly  
free from disease of all kinds  
apparently, altho attached thin  
fire wounds by "dry rot."

He became interested in these  
insects at Evanston, Ill., and  
determined to work out their  
life history and alternation of  
generations, etc. He soon found  
that he did not have the  
correct names of the species.  
He knew they were holocarpoids  
but there were more species  
than there were names and



were doubtless glad as to which species the names belonged. He went into the literature and spent a good many years. In other words in order to become a biologist he had to become a systematist.

Most of <sup>insects of</sup> the galls of our Californian oaks belong to the group of Cynipids

- May 27.

- Berkeley to Mt. Diablo, June 2.

Drove via Walnut Creek to Mt. Diablo. Found Mitchell Cañon, which has been open to travel for 40 years or more closed up by the Cowell Lumber Company. At the village of Clayton I chanced in with the son of the elder Mitchell who directed me into Donner Cañon where we camped in the cañon bottom under a little Alder Grove

100 yds. above the old Donner place. I worked up the left hand side of the cañon but found no clear way to the top of the mountain. The next morning tried the right hand side and found a trail which soon proved to be a "through" trail, not a blind cattle trail running off into the brush. The trail has been used by no animals for this season and was often completely blinded by grass in open and half overgrown by brush in chaparral. But I had no difficulty in following it. I said, "It is a fine trail!" which astonished Father O'Neil, my companion, who thought it a very bad trail. But I had faith it was a "through" trail and such it proved to be. It went thru to the top in a most interesting way. And it gives ready access to the top. What a time I should have had in such brushy and broken country reaching the saddle between the two peaks without this trail, breaking through brush, leading up ridges, around spurs, down into a fine spring beneath Laurel Oaks, and finally up to the saddle and summit. See p. 144.



No. 7568. *Linum breweri* Gray.

Petals yellow, ovate,  
obtusish; stamens  
5; styles 3, distinct.

Petals with auricled  
or dentate claw.

Gland at base of  
petal as shown in sketch.

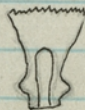
Dry ground, grassy opens, near oaks.

No. 7569. *Brickellia laxa* (Benth.) <sup>Gray</sup>

Fls. purplish blue. Ovary lying  
along lower side perianth, its style  
turned up so as to dispose the  
stigma about in center of tube.

Dry ground opens; under oaks  
usually. Flowers often very dwarf  
in shade, as well as the plants.  
1000 ft.

No. 7570. *Calochortus pulchellus*  
Petals very hairy above gland <sup>Dougl.</sup>



Base of petal  
showing the gland  
and lateral tooth.

Mt. with a small baldish spot near  
apex. In the oak woods, - that is  
oak is dominant, *Quercus wislizeni*,  
*Heteromeles arbutifolia*, *Quercus dumata*,  
*Pinus sabiniana*, noticed only near  
bottom of cañon. 1750 ft. See p. 41.

No. 7571. *Calochortus venustus*  
Eyespots on sepals. Lavender-blue  
- red stain (quadrant) on upper  
part of petal. Central blotch also  
this. <sup>number</sup> on a whitish area stained more  
or less with yellow, eye-spot. Open woods,  
1750 ft. See p. 41. (these forming an

No. 7571a. *Cirsium* <sup>coulteri</sup> <sup>Donner Canyon</sup>

No. 7572. *Clarkia concinna* Greene.

Three upper petals; one lower. That  
this is not adventitious, is shown  
by the calyx. Sepals reflexed clear  
from the middle, the elbows  
standing between the petals,  
the tips united and forming a  
truss which supports the  
3 upper petals. In brush, mostly  
where there is no grass; and on  
steep banks! - 1750 ft. See p. 37.



No. 7573. *Fritillaria parviflora* Torr.

Shade oak woods.

1750 ft.

✓ No. 7574. *Pickeringia montana* Nutt.10 ft. h., very floriferous. Nearly  
past anthesis. Only occasional  
bushes! 1750 ft.

- "Great Manzanita tree" near  
Lake Leonard in Coast Range  
rather far from Orr's Hot Spring  
acc. Father O'Neil. Could this be  
be *Arctostaphylos manzanita*?  
The range of *A. manzanita*  
may be predicted to be just  
along or below lower margin  
of Transition Zone.

- *Arctostaphylos glauca* Lindl.  
forms many large trees 10  
to 16 feet high with trunks

9 to 15 in. diam. at ground.

All are shrub-like, that is  
branched at the ground, or  
2 or 3 feet above more rarely.

No. 7575. *Artemisia californica* Less.  
750 ft.No. 7576. *Elymus glaucus* Buckl.

Opens amongst oak trees, a grass  
which propagates by <sup>underground</sup> runners rooting  
at short intervals, but not many-  
stemmed. It is better to speak of  
the few-stemmed stools being  
connected by a short runner  $\frac{1}{2}$   
to 1 inch long. 1750 ft.

✓ No. 7577. *Eriophyllum*

Opens in the oak woods. 1750 ft.

No. 7578. *Microris linearifolia*

Shade of oaks. 1750 ft.



- ✓ no. 7579. *Barbicanum dasycarpum* T. & G. Very dry ground, a little area or "bald" on the back of a spur, in the midst of chaparral. 2000 ft.: *Lomatium dasycarpum* C. + R.

no. 7580. *Haplopappus linearifolius* ~~Th.~~ Its white balls of pappus-bearing achenes cover the 2 to 3 ft. h. bushes and make the plant conspicuous at this time. Past anthesis. 2000 ft.

- ✓ no. 7581. *Allium serratum* Wats.

After anthesis the tips of the perianth segments are bent abruptly in and approximate, or as if connivent by their tips, the whole perianth giving the impression of inflation at this stage, as rather being dry-bladdery. 2000 ft.

Contra Costa Co.

- ✓ no. 7582. *Holodiscus discolor* Maxim. var. *franciscanus* Jepson. Very small leaved. It is my impression this <sup>species</sup> is not in the Vaca Mts. 2000 ft.

no. 7583. *Rhamnus crocea* <sup>nutt.</sup> var. *ilicifolia* (Kell.) C. S. Wolf ~~Greene~~. Flowers uniformly 4-merous in all shrubs that I examined. <sup>fls. of the</sup> shrubs 4 to 6 ft. h., very erect + 2000 ft. See p. 40.

- no. 7584. *Pedicularis densiflora*  
This also occurs in the Vaca

Mts. 2000 ft.

- no. 7585. *Clarkia* ~~Godetia~~ *biloba* Wats. 2250 ft. Petals pink; color deepens in drying.
- no. 7586. *Beanolhis sorediatus* H. & A. Shrubs 6 to 8 ft. h. 2000 ft.

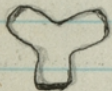
no. 7587. *Delphinium*  
2250 ft. Calyx pubescent outside; lower petals hairy. Petals pink-



stained. Flowers greenish-white as a whole. By dead streamlet in bottom of cañon.

No. 7588. *Allium unifolium* Kell.

Fls. lavender-pink, very handsome. No crests to ovary. Ovary deeply lobed, the lobes quadratisch, so:-



her. x-sect.

Each stem arises from a rootstock which is very short and bears two prongs, one in each direction or nearly opposite, ending in a solid corn or tuber, ovoid-glob. ose in shape. Now at the point where the stem originates one finds the "rootstock" surrounded by the husk of an old corn! Apparently these new corns will next season become separate, send up a stem and at the same time develop two new corns,

June 3, 1918.

the old corn becoming exhausted and appearing as a rootstock. I find not more than two new corns in a place! These plants grew in the cañon bottom on a bank of loose limestones and gravel. Two large white-papery bracts! Four leaves! Sometimes 3 leaves! 2250 ft.

= *stylomecon heterophylla* G. Taylor.  
No. 7589. *Meconopsis heterophylla*.  
Oth. Deep flaming - brick-red. 2250 ft.

No. 7590. *Microseris sylvatica*

Dry ground under *Quercus douglasii*. 10000 ft.

No. 7591. *Microseris douglasii*  
<sup>ssp.</sup>

750 ft. Very dry cracked and baked adobe on open hillside, the rosette of leaves very green and fleshy, the soil so thoroughly baked about the roots as if cemented and difficult to break with a hammer.



32 Mt. Diablo, Donner Cañon.

No. 7592. *Arctostaphylos glauca* <sup>June 4.</sup>  
Aindl. Shrubs 6 to 8 ft. h. 800 ft.

No. 7593. *Ranunculus muricatus* L.  
Stream bed. 750 ft.

No. 7594. *Lepidium latifolius* Hook.  
In baked or rather cemented clay  
on open hillside. 750 ft.

No. 7595. *Phalaris minor* Retz  
(Det. Beecher Crampton, Jan. 1973)  
This grass grew in very hard crack-  
ed clay on open hillside. 750 ft.

No. 7596. *Sonchus* (Discarded, insect damaged)  
with preceding.

No. 7597. *Anthemis cotula*  
with no. 7596.

Contra Costa June 5, 1918

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No. 7598. *Clarkia ~~elegans~~ <sup>unguiculata</sup>* Dougl.  
Stigma white, curves upwards, tow-  
ards end of anthesis. Anthers crim-  
son. Petals in pairs right and left.  
1750 ft.

No. 7599. *Brodiaea coronaria* Jepson.  
In the dry grass of the half-  
opens on the mountain side.  
1500 ft. See p. 44.

No. 7600. *Melica Torreyana* Scribn.  
This grass grew in the shade  
of oaks and other trees. 1750 ft.

No. 7601.  
This grass grew with 7600.

No. 7602. *Aff. Agropyron spicatum* (Pursh)  
(Det. B. Crampton Mar. '72) Scribn. & Smith  
This grass grew with 7600.

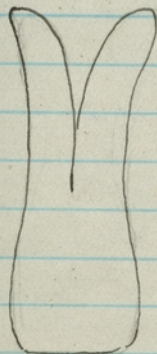


- Followed up Donner Cañon as on June 3. After working up the cañon and over the shoulders one climbs to the summit of a little spur which bears a rather finely-rounded Maul Oak, a single tree conspicuously on its back-bone. Thence one dips down to the bottom of the cañon where a fine streamlet runs beneath a grove of very large Maul Oak. At <sup>old</sup> camp by the streamlet-side is a Maul Oak just 16 ft. circ. at 4 ft.; 65 ft. h.; 115 ft. broad. The trunk is badly hollowed by repeated camp-fires. Old trees of this species are mostly entire-leaved; younger or vigorous trees with dimorphic (entire and spiny) leaves. *Pinus sabiniana* almost choked by the oak here; some trees are

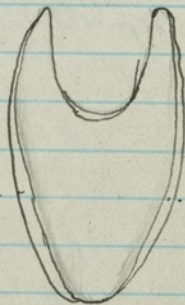
June 5, 1918.

No. 7603. ~~*Brodiaea*~~ <sup>*Dichelostemma*</sup> *pulchellum* Greene.

Shade of woods.



staminal tube.



Anther with  
horus. Its cells  
open along the  
margins (at x) of  
the very flat  
anther-cells.

See p. 43.



✓ No. 7603a. *Ptelea baldwinii* T. & G. var.  
*crenulata* Jepson.

Common all the way up to

Mane Oak Camp. 1500 ft. often  
12 ft. h.

✓ No. 7604. *Dudleya cymosa* ssp. *setchellii*  
*Cotyledon laxa* B. & W.

Petals very acute. Fls. a  
pale straw-color, like bleached  
straw. 3500 ft. North Peak.

No. 7605. *Diplazium glutinosum*  
North Peak. On summit. 3500 ft.

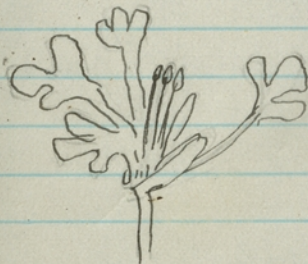
*Mimulus aurantiacus* Curt. Det. A. S. G.

No. 7606. *Galium andrewsii* Gray  
North Peak. On summit. 3500 ft.

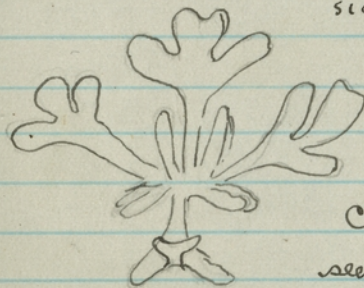
✓ No. 7607. *Eriophyllum lanatum*  
var. *acutellaeoides* Jepson.  
North Peak. With short rays. 3100 ft.

✓ No. 7608. *Eriophyllum lanatum*  
var. *acutellaeoides* Jepson.  
North Peak. With medium rays. 3100 ft.

— *Clarkia concinna*, no. 7572.



*Clarkia concinna*  
seen from the  
side, showing the  
physiological  
bilabiation.



*Clarkia concinna*  
seen from the  
front; showing  
the 3 upper petals  
and the 1 lower.



No. 7609. *Eriophyllum lanatum* var. *achillaeoides* <sup>Japan.</sup> with 7607. Rays long, much more conspicuous than in 7607 or 7608. The plants of these three numbers grew side by side at summit of the North (or East) Peak but differed only in rays, so far as one could notice in the field.

No. 7610. *Sedum spathulifolium* Hook. Shady side of rocks on summit - North Peak. 3500 ft.

No. 7611. *Phacelia imbricata* Greene. Rocky summit. 3100 ft.  
= *P. calycosa* (Gray).

No. 7612. *Collinsia tinctoria* Benth. Shade of rocks, summit. Fls. pink - lavender. 3000 ft.

No. 7613. *Lonicera*

6 ft. high. Cor. pale yellow, lower lobe revolute-coiled from the tip. Straggly bush, its main stems erectish but sprawling everywhere. Donner Cañon, 2500 ft.

No. 7614. *Festuca californica* Vasey

This grass consisted of a very heavy and sharply defined stool or thick close tuft. Donner Cañon, 2300 ft.

No. 7615. *Lathyrus vestitus* ssp. *puberulus* Donner Cañon, 2300 ft.

No. 7616. *Descurainia californica* Nutt. Donner Cañon, 750 ft.

No. 7617. *Juniperus californica* Carr. North Peak, 2700 ft.



No. 7618. *Orobancha fasciculata*  
Nutt. Summit, probably on  
root of *Eriodictyon glutinosum*,  
or of *Eriophyllum* no. 7607.  
North Peak. 3500 ft.

- *Rhamnus crocea* var. *ilicifolia*.  
19 in. circ. at 1 ft. - 13 ft. h.

Many fine bushes, large rounded, 8  
ft. h., near saddle. See des pp. 29, 42.

- *Vitis californica* goes as high as  
the saddle! i.e., betw. the two peaks.

- *Umbellularia californica* is on  
summit North Peak. Also  
*Chrysothamnus*  
and *Eriodictyon glutinosum* Bk.

- On the south slope of the  
North Peak is an area of  
dense chaparral. - *Quercus*  
*wislizenii* var. *fontescens*; *Ar-*  
*c. tostaphylos glauca*; *Quercus*

*chrysolepis* scrub; *Ceanothus con-*  
*satus*; *Cercocarpus betulae-folius* (Hard  
Tack).

- *Boerhaavia pulchella*, found  
everywhere in the chaparral on  
the ridges and slopes, and  
as high as the camp below  
the saddle under the great  
Manuel Oak. See no. 7570.

*C. verrucosa*, mostly solitary,  
but perhaps because just ap-  
pearing in flower. Common  
at summit of North Peak on  
the south slope. - 3200 ft.  
The markings in this are  
very regular. Upper blotch on  
the petal like a paint stroke  
made with a brush, fading up-  
ward. See no. 7571.



Mt. Diablo, Donner Basin

- *Rhamnus crocea* var. *ilicifolia*.

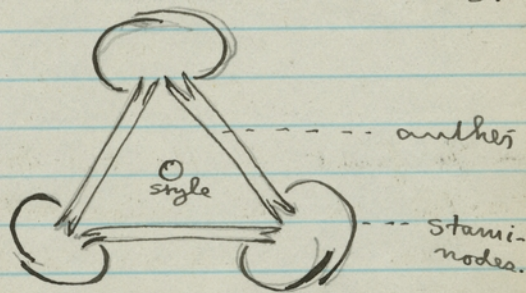
Repeatedly and shortly branched at ends of branches, making a clumpy twiggy growth.

- In front of the old Donner cabin in the canon bottom is a tree of *Juglans californica* which was evidently a planted tree. It stands directly in front of the gate leading to the cabin and across the wagon trail.

Below this tree and only below it, that is down stream, I find a few young trees which are evidently the progeny of the tree at the Donner Cabin. Such seedlings as there may explain some of the so-called "stations" for *Juglans californica* as endemically spontaneous.

June 5, 1918.

- *Brodiaea pulchella* Greene,  
No. 7603.



Ideal Cross-Section of flower  
through the anthers, staminodes  
and style.

In anthesis the flat anthers are so arranged in a triangle that the edges touch. It is along the edges that dehiscence occurs. A pair of dehiscing edges are covered by the tubular-coiled staminode segments. Each half of the cleft staminode forms half the cylinder or tube, the cylinder being open on the inside in such



a way as to receive the opening edges of two anthers.

- *Cercocarpus parvifolius* (Pursh) <sup>Mutt.</sup> folius), 16 ft. h.

- *Brodiaea coronaria*, no. 7599  
Anthers closely approximate around style, completely covering the stigma. I have never seen it any other way, early in anthesis or late. It would seem that self-pollination is completely provided for. [The stamens were erect at the sides.]

- The trail to summit. I enjoyed this trail very much. It went "straight on to destination", a remark of enthusiasm which annoyed Father O'Neil who thought the trail excessively crooked and very bad. It is very crooked but not so very bad. See p. 23.

- Father O'Neil asks if the following are Burbank products: Logan Berry, Casaba Melon; Navel Orange. This shows in what way achievements are attributed to a popular idol. Homer doubtless got the credit of many things that he did not do.

The trail to summit: I am sure originally an Indian trail. At any rate it is well laid out and a really entrancing trail. See p. 44. There are Indian mills for grinding acorns in the rocks at the lower camp.

Berkeley to Windsor, June 21, 1918.

- I drive via the Richmond Ferry and San Rafael to Windsor. At the Colhoun Ranch I am welcomed by William H. Colhoun, my former student. He shows me a very fine tall <sup>*Juglans californica*</sup> tree in the bottom field of the Russian River and points out that the seedling trees in the river thicket are spontaneous from this tree.



- Umbrella Oak at the Calhoun Ranch west of Windsor. In appearance it is like a giant-woodstock. Crown 40 ft. broad. Trunk 7 ft. circ. at ground, 6 ft. at 3 ft. above. Above 3 ft. the trunk is noticeably swollen and much branched, the amount of branching at the ultimate twigs being excessive, so much so that the effect is really that of witch-broom growth, tho. not so dense as in some witch brooms. The species is plainly *Quercus Douglasii* H. & A. The leaves are a bit larger or more luxuriant than the average size in the species, but otherwise seem typical. See no. 7619.

No. 7619. *Quercus Douglasii* H. & A. from the above noted tree.

June 21, 1918

no. 7620. *Brodiaea coronaria* <sup>B. grandiflora</sup> Fl. W. Mid. Cal. Perianth a deeper blue than in <sup>typical</sup> *B. coronaria*, that is more of a purplish or indigo blue. Lobes, especially the narrow outer ones, strongly recurving! The lobes of *B. coronaria* may curve a little outwards but not really recurving. Stamens very short, much shorter than the anthers (which approximate in center) and erect at sides of perianth. Hard dry gravelly hill ground.

no. 7621. *Brodiaea leptandra* Greene. See 7620 for comparative notes. Stamens excessively long! emarginate at the truncatish apex or bluntish apex, closely approx-



insets around the central anthers. This form is truly remarkable for the length of the stamens, the staminodes, the style! The color is blue, perhaps with some lavender in it, the longitudinal green stripes on the back of the segment being prominent\*! with 7620. \* And markedly characteristic!

No. 7622. *Brodiala coronaria* Jepson.

This is like no. 7620 in the androecium and position of staminodes. Segments not recurving, only spreading. Color not so deep as in 7620 but stripes on back as in 7620. In color it is really closer to 7621. The outer segments in shape are like no. 7621.

- *Quercus douglasii* H. & A. No. 7619  
ent. Branches in this tree just above fork of trunk are grown together or crossed ("grafted") in half-a-dozen places. It is one of the marked peculiarities of the tree.  
Height = 18 ft.

- Cork Oak

at 4 ft. - 5 ft. 5 in. at

" base - 7 ft. 3 in. circ

Tree 36 ft. h.

Trunk 10 ft. h.

Brought from south of Sonoma a seedling from here planted by General Vallejo. About 35 years old. Planted by the elder Calhoun.



William Calhoun says that "Spineless Cactus" is one of the greatest frauds projected on an unsuspecting public. He says that he does not know about the scientific value of Burbanks' <sup>work</sup> but that everything which he has tried the hardest to exploit on the horticulturist has proved a failure. His best plum is the Wickson Plum.

Calhoun greatly admires Wickson as having a practical mind and thinks his work for the California farmer will be remembered long after T. F. Hunt is forgotten. At any rate it is pleasant to find Wickson appreciated by the real farmer.

- In the hills south of Hopland a road-runner flashes across the highway.

No. 7623. *Brodiaea coronaria* Jepson.  
Segments spreading, not recurved; line on back dull or reddish-brown. Stamens short, shorter than the stamens, strictly erect at sides of the perianth. Exactly like 7622 but the plants taller and fls. larger. - In the hills S. of Hopland.

No. 7624. <sup>*Centaurium floribundum* Rol.</sup> *Erythraea muhlbergii* Griseb.  
Fls. much smaller than in the species at Calistoga.

No. 7625. *Eleocharis montana* R. & S.  
Wet swale, standing spring - water place, all green.

No. 7626. *Juncus tenuis* Willd. var. <sup>*congestus* Engelm.</sup>  
Dry hard land.



- "*Brodiaea lactea* - 3 forms  
Wet land form, white, big,  
with offsets  
*Lilacina*, lilac, otherwise  
the same.  
Dry land form, small,  
no bulb offsets.

The bulb coat of this sp.  
I should know anywhere  
I see it. It can be  
distinguished from all  
others of this series.  
The coats are many  
and peeled off leaves  
a bulb the size of the  
seed." - Carl Purdy

- As we sit on the porch in the evening  
the por-will keeps up its constant  
note down in the garden.

June 22, 1918.

- "*Lilium parviflorum*, leaves broader  
than in usual *pardalinum* but  
otherwise like it. Leaves whorled!  
Shaw Mills, Upper Sacramento, etc.  
A smaller-flowered state of  
*L. pardalinum*. As far south  
as Kings River in the Sierra."  
- Carl Purdy

- "*Lilium columbianum*  
Grows at Crescent City and  
north along the Illinois River  
As far south as Arcata (Humboldt  
Folst Spil-). Along coast on  
sandy land, - does not go into  
timber. Then north, from the  
coast to Rocky Mts. What-  
Hansen and others have, in  
the Sierra Nevada, called  
*L. columbianum* is *L. parviflorum*."  
- Carl Purdy.



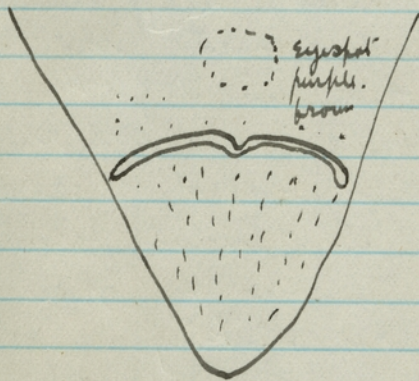
- *L. pardalinum* is not in or. wash. acc. to my idea. *L. roezlii* is there, but *L. roezlii* is not *L. pardalinum* unless *L. parvum* is! - Carl Purdy.

- *Brodiaea capitata*. Purdy has the same idea regarding veg. reproduction as expressed in my mss. Fl. Cal. There are slender offsets, horizontal, which develop complete at the end. Then in the spring fleshy cylindric processes develop downward or at an angle downwards; these develop a bulb at tip and cause the <sup>former</sup> bulb to be more deeply seated, when the first bulb is too shallow.

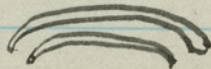
- Purdy says the California bulb breakers (which he has exploited so long) is dead.

June 22, 1918

No. 7627. *Calochortus vestitus* Purdy. Petals pure white - above the eyespot. Purdy says they are always so. Gland reaching from side to side; doubly lunate says Purdy, by which he means, so:



By doubly lunate might mean a figure thus:



Do this even occur? in any Cal. *chortus*? i.e. of the *Mariposa* group?



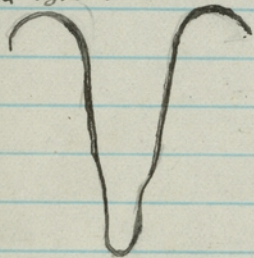
Gould's Ranch, in the hills sw. of Ukiah.

I climbed up to this place by the road, 2 miles from Romer's Stock Ranch, which is on the highway south of Ukiah. This place is the type loc. for *Brodiaea stellaris*. Purdy says he was "raised" near this spot and collected the species here, sent it to Watson, as probably new with the suggestion that it be called *stellaris*, its perianth forming a "star" in the dry grass and very striking.

A *Brodiaea*, exactly like the open-mouthed *B. coronaria* is not uncommon all about this place. It has no appendages to the anthers and cannot be *B. stellaris*, but is the only *Brodiaea* here. Purdy said I would find it common in the grass. No. 7628 is common in the grass.

June 22, 1918.

No. 7628. *Brodiaea* <sup>*elegans* Hoover</sup> *grandiflora*  
[from type loc. *B. stellaris* Watson, acc. Carl Purdy]  
not not that species.



The segments are sometimes a little more reflexed than as here shown.

The stamens are short and opposite the outer perianth segments. In a full blown flower they curve outwards a little with the segment and are not "erect" as I have referred to them in all the *Brodiaea coronaria* species. I have collected on this trip. This was collected at Gould's Ranch. I picked it or examined it in 20 different spots, mostly grassy places, in little swales or near or under trees. [= *B. coronaria* Jepson.]



- Poison Oak. - It is more widely distributed, in general and locally, than any other Californian shrub. In the factor of frequency *Acer* comes first. It is gregarious over large areas and pure or nearly so in those areas. *Quercus mexicana* has a high stand when it comes to individuals, and may be second. It is possible that *Alnus diversiloba* instead of standing third really takes first place. It is when a wooded hillside is cleared, as here near Gould Ranch, that one sees, when the Blue oak and Madrone and various shrubs go off how numerous

are the Poison Oak bushes - amazingly so. It is often or even commonly an unobtrusive shrub - scarcely noticed in many formations and yet really very abundant. It is in the low openly wooded foothills; it is in the chaparral; it is in the forest of Douglas Fir or Redwood. It occurs rarely in Chauriz.

- *Torreya californica* ?  
Poles 5-15 ft. h., a few.

No. 7629. *Arctostaphylos stanfordiana* Parry. Its berries are small, noticeably irregular, and bright apple red. By irregular I mean unsymmetrical. Mostly depressed.



60 Gould's Ranch, av. Ukiah

- No. 7630. *Eremocarpus retigerus* Benth. This grew away up in the woods at the turn of the road where the earth had been banked. How did it get away out of its accustomed habitat of bare hills as plains? Perhaps by birds.

- No. 7631. *Arctostaphylos manzanita* Parry. 6 to 8 ft. h., not crown-sprouting. Characteristic looking shrubs, higher up than either of the other two *manzanitas* collected at "Gould's Ranch". Berries scarce.

- No. 7632. *Agrostis hallii* Vasey

This grass grew in the open oak woods.

- No. 7633. *Hieracium albiflorum*.  
Open oak woods.

June 22, 1918 Mendocino Co. 61

- No. 7634. *Carex fess* Bailey  
In heavy clumps in a wet-  
now dry, swale with woods around.  
Open

- No. 7635. *Boissduvalia densiflora* (Lindl.) S. Wats.  
with 7634.

- No. 7636. *Silene californica* Dur.  
In shade of oak.

- No. 7637. *Silene californica* Dur.  
Within 6 ft. of 7636, in dry  
open ground. Essentially same  
hue of green foliage but whole  
plant more condensed.

- No. 7638. *Silene californica*  
Side by side with 7637.  
This one similarly condensed, or  
perhaps a trifle more. The fol.  
is strikingly different in pubes-



62 Gould's Ranch, sw. of Ukiah.

cence, being decidedly cons-  
cent. I see no difference in  
the fls. of the three nos.  
of this species. The infl. of  
this is much more conden-  
sed than in 7637.

No. 7639. *Juncus tenuis* Willd. var. *congesta*  
Wet but now dry open soil.

No. 7640. *Arctostaphylos can-*  
*escens* Eastw. The white fuzz  
on the berries is very scanty.  
The leaves seem glandular-  
pub. a little. The trunk rises  
from a heavy tabular platform.  
It is possible this may be  
too near *A. glandulosa* Eastw.  
[= *A. glandulosa* Eastw. - w. L. S. !!]

No. 7641. *Psoralea macrostachya* DC.  
See p. 65. Ukiah Valley.

Ukiah Valley, June 22, 1918, 620 feet. 63

— *Rhus diversiloba* Toly. The great show  
of Poison Oak on the cleared hill slope  
caused Arthur Rorer, in reply to my  
query, to say: "Some stockmen say  
they wish that they had so great  
a growth. It is an especially valu-  
able feed in a dry year such as  
this. It will save cattle when  
there is nothing else. Sheep feed on  
it from the spring to summer;  
goats feed on it from August to  
October, that is when they begin  
to work on it. Cattle go to it when  
the <sup>grass</sup> forage, especially green forage,  
becomes scarce. Horses feed on it  
most any time. Goats eat  
it down pretty close. They  
eat not only the leaves but  
the wood, that is to say the  
dormant buds for next year,  
the tips of the shoots. It is



said to be a good forage and to fatten cattle.

As a specific for the dermatitis of Poison Oak the Indians have a root which is a sure cure. I have collected it. The property of the root was discovered by an Indian. [From Roman's description I judge the plant to be a member of the Parsley family, either *Leptotaenia* or *Angelica*, I judge.] It has been tried many times with complete success. Of course it has to be used in the early stages of dermatitis.

June 22, 1918.

- *Psoralea macrostachya* DC. Fine dense clumps of plants in wet spots at <sup>Ukiah Valley</sup> Roman's ranch, 8 to 12 feet high. Arthur Roman calls the plants "wild hemp". He said the roots were very tough. If I remember rightly he said that if goats ate the tops down repeatedly the plants would "sour-sap" and rot out, whereas it is difficult to grub them out with a mattock. See no. 7641.

- Sour Clover. Arthur Roman talked spiritedly of this plant. He says it grows in wet spots in their valley place (Ukiah Valley), 2½ feet high in good years. The flowers purplish with white tips\*. The Indians are very fond of it, eating the foliage of the plant and coming long distances for it. They gather

\* See no 9282 collected near Roman Ranch in valley.



66 Goulds Ranch, sw. Ukiah, June 22, 1918

it eagerly in quantity, using it much as we use a salad, that is uncooked. The women, of course, do the gathering of it. I judge the plant to be *Trifolium variegatum* Nutt.

(June 23, 1918)  
— The next morning I drive south, early, thru Lima Valley and over the hills to Hopland Valley, then over the higher hills by a longer pull, but thru beautiful country to Cloverdale. I botanize occasionally, but the hills are now very dry.

No. 7642. <sup>= *L. purshianus*</sup> *Lolium americanum* Bisch.

Hills south of Hopland.

No. 7643. *Verbena lasiostachya* var. <sup>*septentrionalis* Moldenke</sup> *prostrata* R. Br.  
Open hot flat. Hills s. of Hopland.

No. 7644. *Spergularia rubra* (L.) J. & C. Presl.  
with 7643

No. 7645. *Iris missouriensis* Nutt.  
with 7643

— *Asclepias californica*, on hills s. of Hopland, fence-box.

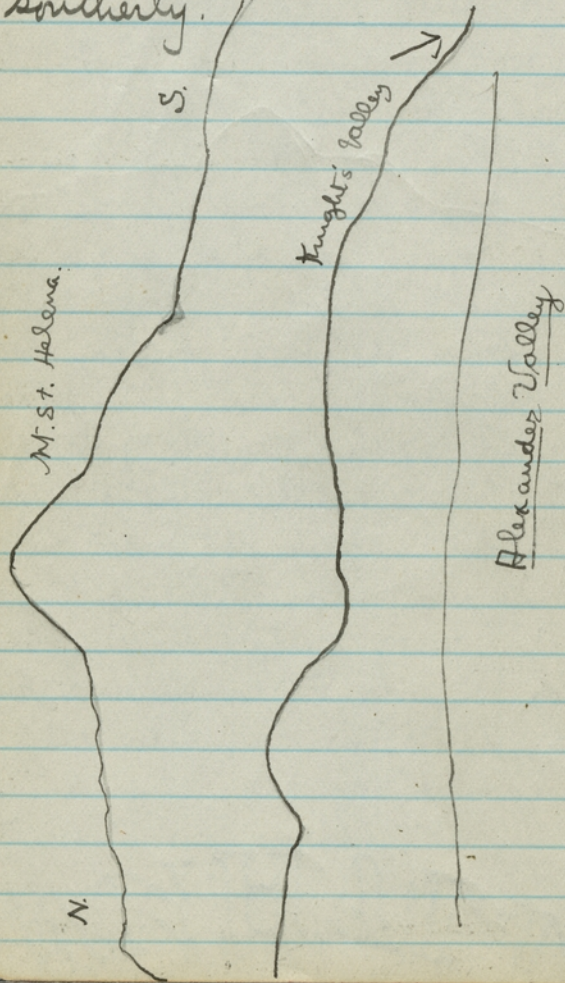
— *Asclepias mexicana*, hills s. of Hopland.

Ukiah to Cloverdale, June 23, 1918.

67  
— South of Geyserville I pull in at a little oak-covered <sup>recessed</sup> angle of the road in front of a country school to oil the automobile. The road-meter has not been registering and I find a joint-loose. It is a lovely rest spot on a slight elevation overlooking Alexander Valley. Down the valley one can see in the far distance <sup>I think</sup> the <sup>2nd</sup> pine-+ fir-covered table summit of Howell Mt. Immediately <sup>(where I rest)</sup> to the left of this spot and in the near distance is Geysen Peak. The long high back just south I take to be Cobb Mt. if I remember rightly. But the great and delightful landmark of all this region is Mt. St. Helena. From here the highest point <sup>of St. Helena</sup> is a peak resting on two broad shoulders, one



68 Clowardale to Windsor.  
northeasterly and the other  
southerly.



June 23, 1968

69

- No. 7646. *Asclepias mexicana* Cav. Clowardale.  
No. 7647. *Juncus phaecephalus* var. *paniculatus* <sup>Engelm.</sup> Asti.  
No. 7648. *Juncus bolanderi* Engelm.  
No. 7649. *Stachys*  
No. 7650. *Cyperus* Asti.

At Healdsburg I stopped for dinner and then went on south to Country near Windsor known in early days as Poor Man's Flat, clay and alkali flat with scrub oak wherever the flats pass into low rolling hills. I turn off the main highway into a country road running south thru the oak flat. At the very beginning of this road I stop to look for *Brodiaea stellaris*. There is plenty, relatively, of *B. coronaria*, but I find only two plants of *B. leptandra* after long search.  
No. 7651. *Brodiaea coronaria* Jepson. See p. 73.



No. 7652. *Erugium*

No. 7653.

No. 7654. *Brodiaea leptandra* Greene.See p. 73.  
" 73.

Per. segments erect!

Perhaps never curving outward appreciably at all. Staminodia erect and approximate in center, nearly as long as the segments! and  $\therefore$  very conspicuous. The effect of the flower as one looks into it is very different from

*B. coronaria* Jepson which grows with it - here on Poor Man's Flat just as on the Calhoun Ranch. At this spot I find only a single individual altho I have examined fifty or more plants of *B. coronaria* in an attempt to pick up another individual. The stripe on the outside is

June 23, 1918.

a distinctive yellowish-green! and is different from the reddish brown of *B. coronaria*.

The staminodia are very blunt and obviously emarginate. - I now find another individual, with all the characters of the first. The per. segments are not at all recurving!

- I drive on south on this road one-half mile and stop again. In the oak scrub, *Quercus douglasii*, over a picket fence near the railway, I find a low swale and an oak tree on the edge of it. Under this is a colony of a dozen individuals of *Brodiaea leptandra* Greene. I find no more.

A little further south my road enters the cross road west from Windsor. See p. 78. No. 7657



72 Windsor, Mark West Creek, Calistoga  
Sonoma Co. Sonoma Co. Inyo Co.

No. 7655. *Brodiaea coronaria* Jepson  
Staminodia short, erect, at sides.  
Anthers approximate in center. On the  
Poor Man's Flat at Windsor.

No. 7656. *Calochortis luteus* Dougl.  
Common on Poor Man's Flat at Windsor.

No. 7657. *Brodiaea leptandra* Greene.  
In swale beneath *Quercus Douglasii*.  
Greenish band on back very marked.

- A little south <sup>segment</sup> of Mark West Creek  
which is for this country a fine  
creek I turn <sup>left</sup> up the road to Mark  
West Creek and the Petrified For-  
est. Up this stream is a fine way -  
along Mark West Creek. Near  
the Petrified Forest entrance I  
stop and collect *Brodiaea*.

No. 7658. *Brodiaea coronaria* Jepson.  
Staminodia erect, at sides, short. Mark  
West Creek east of Mark West Sprs.  
Not so far from Petrified Forest.

June 23, 1918.

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[*Eryngium* Cont. from  
p. 70, no. 7652. This was collected in  
a dry flat north of Healdsburg (on the  
road to Lytton.)]

[*Brodiaea coronaria* Jepson. No. 7651.

Cont. from p. 69. Collected in a dry flat  
north of Healdsburg, formerly wet,  
(on the road to Lytton). Staminodia  
short, at sides! Anthers approximate  
in center!]

[*Eryngium* No. 7653  
cont. A taller more slender state of  
no. 7653].

No. 7659. *Calochortis luteus* Dougl.  
Mark West Creek east of Mark  
West Springs.

No. 7660. *Brodiaea coronaria* Jepson.  
Same kind of fl. as in 7658.  
Petrified Forest, within 100 yards or  
so of entrance of forest. This is *Syke*  
loc. for *B. squandra* Heller, but I do not get it.



Calistoga <sup>napa Co.</sup> 360 ft.

No. 7661. <sup>= *Fritelia*</sup> *Brachala laxa* Benth.  
 Petrified forest, shade of open  
 woods. June 23. Sonoma Co.

No. 7662. *Pogogyne douglasii* Bth.  
 This mint grew on the alkali  
 flat north of Calistoga. June 23.

No. 7663. <sup>*Centaurium*</sup> ~~*Erythraea*~~ <sup>*hol.*</sup> *nichanthum* ~~frank.~~  
 With 7662. Dry year plants; the  
 same species as no. 7438, g.v.  
 June 23.

No. 7664. *Juncus balticus* Willd.  
 Calistoga, alkali flat. June 23.

No. 7665. *Brodiaea coronaria* Jepson  
 Stamens short, erect, at sides  
 Anthers in center approximate. Under  
 Black Oak, 100 yds. below Toll House on  
 the Calistoga side of Mt. St. Helena.  
 June 24.

June 24, 1918.

No. 7666. *Carex* *feta* Bailey  
 Wet swale below spring.\*

No. 7667. *Scirpus microcarpus* Presl.  
 With 7666

No. 7668. *Scabiosa*  
 Fls. purple and pink-white.\*\*  
 With 7666.

No. 7669. *Arctostaphylos menziesii*  
 Parry. On mountain side half  
 way to Toll House, Calistoga to Mt. St.  
 Helena. The berries are now very  
 white. Probably Parry's type loc.

Silverado is an abandoned inn  
 half way up the grade to Toll-  
 House (on Mt. St. Helena). There are good  
 springs <sup>here</sup> in a little open below the inn,  
 where there is seepage, I obtained  
 nos. 7666 to 7669.

\* Half-way to toll-house on Mt. St. Helena  
 from Calistoga, i.e. at Silverado.

\*\* Common as a weed in waste places  
 throughout upper Napa Valley.



Oakville, Napa Valley

June 25, 18

No. 7670. *Carex barbarae* Newey  
Ditch bank.

No. 7671. *Picus ichioides* L.  
Near Union sta.

The following were collected in  
the Berkeley Hills on Sunday, June 15.

No. 7672. *Brodiaea coronaria* J. P. M.  
Anthers in center; stamens  
at sides. Open summit by Wild Cat

No. 7673. *Lecharcia* ~~*foetida*~~ *ausone*  
Sae. p. 77.

Brushy hills.

No. 7674 *Hordeum geniculatum* All.  
[Det. Beecher Crampton, Jan. 1973]

This grass grew in very  
dry ground in a pasture in  
Wild Cat Creek cañon.

No. 7675 *Juncus phaeocephalus* Engelm.  
var. *paniculatus* Engelm.

This rush grew in a  
springy but now rather dry  
spot in Wild Cat Creek.

Berkeley Hills, June 15, 1918

No. 7676. *Microseris douglasii* ssp. *douglasii*

This cichoriad grew in  
very dry ground near Baldy Peak.

No. 7677. *Peucedanum vasejii* C. & R.

Near Sugar Loaf on high dry  
ridge. (= *Lomatium uticulatum* C. & R. in Fl. Cal.)

No. 7678. *Elymus glaucus* Buckl.

(Det. Beecher Crampton, July 1972)

This grass grew on the  
north slope well up on Skyline  
Ridge.

The above notes, <sup>note</sup> especially that  
relating to 7672, were made June

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— *Helianthus puberulum*

Positively perennial as shown  
by plants in Wildcat Cañon, June  
15, 1918.

No. 7679. *Psoralea orbicularis* Lindl.

Grows at head of Claremont Cañon (back  
of Judge Garbars), within 1/2 mile of divide,  
on south slope cañon, in brush, on bank of the  
little dry stream. Shown me by A. R. Berger.



Berkeley, July 2, 1918

- My discovery of *Brodiaea leptandra* in Sonoma Co. was pure chance. I was driving south from Healdsburg on the State highway. I turn off the road into a country lane running south, blindly, stop sharply to examine *Brodiaeas* and find two large *B. leptandras* amongst hundreds of *B. coronarias*. I go on south half-a-mile, stop, climb over a wire fence into a field of oak-scrub west, go there it one-eighth mile maybe to a small shallow swale and there under a Blue Oak tree I find a colony of fifteen plants of *B. leptandra*. As a species the characters show up much more strongly in this isolated lot than in the individuals associated with *B. coronaria*. - See No. 7654, p. 70.

Berkeley to Sonoma, July 4, 1918.

- Drove, with Professor G. J. Peirce of Stanford to Sonoma from Berkeley. Lunched at Oakdale and made Sonoma about 4 pm. I am on the quest of Duffield Ranch to secure topotypes of the new species collected there by Bigelow (See Pac. R. Rep. v. 4). It was difficult to find anyone in Sonoma who knew Duffield's Ranch. I was misdirected but finally ran in to an old resident John Ryan who said Duffield's Ranch was near Standard City. Everyone <sup>on</sup> the main street of Sonoma took an interest in my problem and when it developed that Duffield and another old-timer by the name of Lyons had a shooting bout on the main street of Sonoma interest waxed intense. Everyone was so desirous of making a contribution to the fund of information it was thought I desired that it seemed at one time hopeless to get



an answer to the one question: Just <sup>how</sup> can I find Duffield's Ranch? The Superior Judge of the County of Tuolumne took an interest from the start and it was noticeable to us that he asked the passerby leading questions, as, "John, isn't Duffield's Ranch out by Standard City, the old Bob Finney place?" Finally I got wind of Robert Marshall, an old-timer I said to be 85 and who proved to be 91 years old with a memory as clear as a bell. He was here in the early fifties when Duffield was here, owned a claim near him and knew him well. He was, says Marshall, an autocratic man who was a dead shot. He had a quarrel with Lyon\*, <sup>p. 87.</sup> shot at him several times without downing him, and, remarked, to bystanders, "That man is wearing a coat of mail. Otherwise I certainly would have got him." Marshall

July 4, 1918.

depicted well Duffield's character\*. He was a quarrelsome overbearing man and a dead-shot. He was a Southerner and a Republican, a strong Republican, and a dead shot. He came from Virginia, left his family behind, brought a negro wench with him whom he kept as a wife but ostensibly as a servant. He was a very proud man and shot a miner who spoke of <sup>his negro woman as</sup> Mrs. Duffield. I was a sort of dentist in those days and pulled teeth. The negro woman was suffering dreadfully from foot-rache and Duffield came over to my place on the hill and asked me to go over and "pull a tooth for his wi;.... for his Eliza"! He came nearly saying his wife but he insisted <sup>that</sup> <sup>everybody</sup> else call her Eliza. I consented good-naturedly, but found Eliza scared to death of the forceps. Duffield had to use strong language with her to make her yield. Duffield was a strong Republican \*cf. p. 87.



and sure by everything that Lincoln would be elected. After Lincoln was elected he left these parts and became Governor through Federal appointment of <sup>one</sup> of the territories, like Arizona or Colorado. Before he left he tried to run Bob Shelby off his mine, saying to fellows he tried to have join in with him that Shelby would run like a mustang. When the day came the men all sided in with ~~Shelby~~ and said to Duffield: "Duffield you have no business here. This is Shelby's mine". Duffield tried to bluff Shelby and said to him: "If this is your mine what do you call it?" Quick as a flash Shelby answered: "The Mustang Mine"! and it became famous as such. Either before or after this Duffield sunk a shaft, following a vein, on his place less than a mile up the gulch above what is now Shelbyville.

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Perhaps  $3\frac{1}{4}$  mile. He did not strike anything but he got some rich ore from the Mustang Mine, tamped it into the bottom of the shaft, let it lie two or three years and then it became noisy about that there was gold in the Duffield shaft. Some men, not miners, came to Duffield to buy the mine, but Duffield was reluctant to sell. He said in any case he would not sell anything except an interest. Finally he sold  $\frac{1}{8}$ . After he sold it, he said: "Well, boys, you might as well take the other  $\frac{1}{8}$ ; I have no use for it." That was just like Duffield. Duffield was a dead shot. Ben Shelby was also a dead shot. Ben was the only man Duffield was afraid of. [By which I infer that Ben was quicker with his gun than Duffield. Under the principle of survival, following this biological law, there are three factors: Courage; Quickness; Surety of aim, otherwise known



as the factor of the dead shot. ] See p. 200  
 Lyns shot a man by the name of  
 Blakeslee. Lyns and another man  
 were hanging in Haugman's gulch  
 at the <sup>5</sup> end of the Sonora main street.  
 It was evidently a great social event  
 in Sonora. Everybody went to the  
 hanging. John Ryan was there and  
 remembers it distinctly tho' not  
 a small lad. Robert Marshall re-  
 members it particularly and gave  
 me some details of the history leading  
 up to the climax of Lyns' career  
 on Haugman's gulch at Sonora main  
 street end.

From Sonora we drive to Salsby-  
 ville and to the old Salsby place in  
 Duffield Cañon. A new-comer Hoff-  
 scheider, has bought the Salsby  
 place and old Ben Salsby\* has  
 moved a little further back. We  
 found him working on a new

\* Noted in Hist. Turf. Co. p. 324. cf. p. 101.

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one room shack. Salsby is 78\* years  
 old and preserved well. He looks rugged  
 and strong in spite of his obvious years  
 and shade of grayness. He has a great  
 shock of hair. He was uncommunicative  
 and made very brief replies to my queries.  
 He knew Duffield, spoke of his shaft and  
 the incident of his saying that he (Duf-  
 field) had been up on the hill and that  
 the owners of the mine then, or rather  
 claimants ran like mustangs. Whence  
 Mustang Mine. He denied that there had  
 been any Duffield Ranch but when  
 I showed him the citation in Pac. R.  
 Rep. V. 4, he bethought himself and said  
 Duffield had a place beyond what  
 is now Confidence. To the best of his memory  
 and belief it is now <sup>that</sup> known as the  
 Ward Pike place. Salsby was modest  
 and never boasted that Duffield was  
 afraid of him. He is from Pennsylvania.  
 Mrs. S. is from Missouri, 75 years old,  
 of fierce undaunted spirit and a  
 heavy head of hair. \* cf. p. 87



No. 7680. *Trichostema oblongum* Bth.  
Moist spots.

No. 7681. *Calycadenia multiglandulosa* DC.  
ssp. *bicolor* (Gr.) Reck  
Dry hills.

No. 7682. *Navaretia intertexta* Hook.  
Dry formerly, wet, low.  
spots.

No. 7683. *Brodiaea coronaria* Jeps.  
var. *mundula* Jepsom.  
sowers in center; stam-  
inodia erect at sides. Notice the  
many fls. and the congested umbels due to  
the short pedicels. Note the twisted scape of  
the largest or rather tallest plant.

No. 7684. *Lagophylla congesta*  
Greene. Dry flats.

No. 7685. *Juncus tenuis* Willd.  
wet spots.

No. 7686

wet spots.

No. 7687. *Clarkia*  
~~*Jodtia*~~ *williamsii*  
Dry flats.

No. 7688. *Eriophyllum*

Dry hillside, on bare gully slope.

No. 7689. *Careum Gairdneri* Gray.

Abundant on the once wet  
and still somewhat moist low  
flat. Flowers white, gregarious.

No. 7690. *Eryugium pinnatisectum*  
Jepsom. Once wet - now dry foot hills  
or flats.

\* p. 81. "The celebrated Lyms-Hazel-  
line - Duffield fight in the streets of  
Sonora in 1854" - Lang, Hist. Tuolumne Co.

\* p. 80. Jim Lym referred to. p. 379, l.c.

\* p. 102. The Blakesley Murder, p. 218, l.c.

\* p. 105. "M. B. Duffield, a former well-  
known inhabitant of Theodun-  
ne, murdered in Arizona, June,  
1874." p. 293, l.c.

— cf. also p. 101 infra.

\* p. 85. Ben Soulsby "landed in Sonora in  
1857" he said; also stated he was 78. Must  
have been 88 I judge.



Ward Pike Ranch, near Confidence.

- No. 7691. *Brodiaea cernua* Jeps.  
Anthers approximate in center,  
the stamens rest at the sides.  
Mid-stripe on each perianth  
segment just exactly as in  
the Smokey Co. and Mendocino Co.  
plants, - the same line, a dull  
red or reddish brown. - Dry  
hills. This plant now in full  
flower. At Duffield's Cañon <sup>near</sup>  
Solsbyville the same species was  
first flower (No. 7683).

- No. 7692. *Juncus effusus* L. var.  
*Springy spot* <sup>*pacificus* Fern. & Wieg.</sup>

- No. 7693. *Viola lobata* Ait.  
Dry Yellow Pine woods, in  
dense timber, in very heavy leaf  
mold.

- No. 7694. *Pyrola* <sup>*picta* forma</sup> *aphylla* Smith.  
With no. 2693. Fls. pink.

- No. 7695. *Arctostaphylos viscida* <sup>Parr.</sup>  
No. = *A. mariposa* Dudley.

4900 ft.

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*Indolence Co.*

Berries very sticky, but the gluten  
not persisting on one's fingers,  
simply cobwebby - excretable.  
Leaves very white. Coniferous woods.

- We drove to this spot from Solsby-  
ville. Stopped at Confidence and inter-  
viewed Mr. J. B. Booth. He is an aged  
resident, but a youngster in the neigh-  
borhood, having been here only 15 yrs.  
or so. He was neither incommunicative  
nor garrulous. He was accurate, clear,  
and painstaking in his replies. He  
tried to apprehend distinctly my <sup>question</sup>  
and to point out the possibilities or  
difficulties of an answer. He was  
direct on the one hand and suggest-  
ing of help on the other. He was cool,  
calm, collected, courteous; but not ob-  
trusively friendly. He was a great help  
and a good find. He had never  
heard of Duffield except as the



name was connected with Suffield's Cañon or Suffield's Gulch as it is as frequently called. But he knew the Ward Pike place, gave me clear and definite directions for finding it. He noticed that I took down the directions: "Take the middle of the three roads at the forks 200 yds. beyond Confidence. Keep the main road, disregarding wood trails, pass a road marked Barrett leading to the Barrett place, go on to the Jasper ranch, take right hand road and in  $1\frac{1}{2}$  miles or 2 you come to the Ward Pike place, a single house with a stone chimney on one side of the road, five or six buildings opposite, a little collection of them." These are the directions. I always take down the directions and read them over to the person who gives

them. In this way the informer has a chance to correct himself as you, or to add to the directions. Moreover when one gets on the way the character of the road and its branches as the landmarks noted may tend to confuse the memory if one trust wholly to the memory. At the end he <sup>[Booth]</sup> said, "I can't miss it". In the end we found this to be true and came to the Ward Pike place which we found abandoned. The stone chimney represented the older residence and was doubtless Suffield's, if Suffield lived here. While we were observing the place two peccaries came along. The younger air the talking and lived up the ridge. He said: "This is the Ward Pike place. Pike was a strange character who died in 1909. He gathered up old iron and junk everywhere. He stole a 5-stamp mill and when he had the mill machine



any loaded on his wagon, he set fire to the building, and then discovered his horses could not pull the load. The wagon was burnt. Ward Pike regarded this story as a mere joke on him and said to the boys: "Oh, no, Ward Pike would not do that." He had a lot of cowboys and told a neighbor who was on his way to Sonora to buy a stove not to go but to go in to his place and help himself. Later the neighbor went away and on his return found his stove missing. He started to Sonora to buy one but met Pike who told <sup>him to help</sup> himself to another stove. The neighbor picked out the same stove he had lost! Ward Pike earlier lived down near Shaws Flat. A neighbor missed a pair of car wheels and going to Pike's house peeped thru the cracks and saw his wheels. He went to Sonora, saw Pike, accused him of

July 5, 1918.

stealing the wheels which Pike denied. Pike said: "It's not you \$20. It was taken, while the neighbor went out with a deputy sheriff. Pike ran across a short way, dropped the wheels down a mining shaft and when the neighbor arrived made him pay the debt."

Ward Pike appears to have been a picturesque character and a worthy successor to Duffield.

The whole country here is cropped down close by over-stocking and there is almost no botanizing. I get a few plants only and we go back to Jashe's Ranch where we left the machine and return to Confidence. Thence down grade <sup>1 1/2 miles</sup> to the Williams place. Williams is an old resident, having been here in this county since 1854. He is 87 years old, says he knew Duffield who was a shooting man. Duffield and Jim Lyons were bitter enemies and they were always



looking for each other, ready to shoot.  
Lyns was busy in Hangman's Gulch.

Duffield was a strange character.  
He was riding a mule one day and  
"it" would not cross a bridge but  
turned round and round. Duffield  
turned <sup>then</sup> the <sup>mule</sup> round and round until  
it got drunk and fell down. <sup>Then</sup>  
he made it get up, got on it and  
said, Now I guess you'll go straight.  
The mule went across the bridge. <sup>He</sup>  
That was like Duffield."

Williams denied that there was any  
Duffield Ranch. He knew nothing of  
Duffield's residence beyond Confidence.  
He insisted that Duffield was  
a miner and prospector and did  
not farm or raise anything altho  
he raised hells occasionally.

We stopped the night at Williams  
Ranch, in camp under the Incense  
Cedar trees. Next morning Williams

(William July 5, 1918.

said that Lewis, a neighbor had been  
over the night before, that he, Lewis,  
remembered as a lad of 12 or 15 of  
Duffield; that the boys always gave  
him plenty of room as an unfriendly  
character and went around his  
ranch which was on Bald Mt. 1 1/2 or  
2 miles easterly from Sonora. The  
P.O. address of Lewis is Soulsbyville.  
His evidence does not seem credible.  
At least, he is now only 39 years  
old. Less 15 years is 24 years. That  
would make his experience of the  
year 1893. But Duffield lived on  
his ranch in 1854 - at the time of  
Bigelow's visit - and must have  
left this country long before this  
boy was born. [He was killed in 1874]

The forest at Hard Pike place is Yellow  
Pine, Incense Cedar, and a little white fir and  
Sugar Pine. The altitude is about 4800 or 4900 ft.

Ben Soulsby, J.D. Williams, J.P. Booth,  
all octogenarians have <sup>beards</sup> heads of hair. I  
noticed several others.



Confidence, July 6, 1918.  
Williams Ranch.

No. 7696. *Scirpus microcarpus* Presl.

John D. Williams Ranch

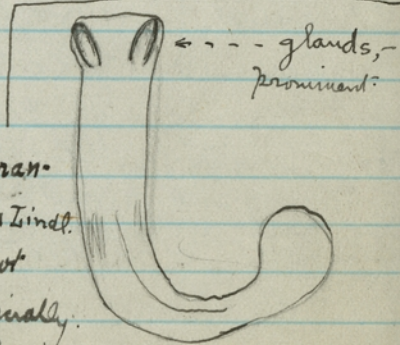
No. 7697. *Carex nudata* Boott  
wet creek bottom.

No. 7698. *Trifolium warnockii*  
Lehm. wet creek bottom.

No. 7699. *Juncus tenuis* var. *congestus*  
Engelm. Dry flats.

No. 7700. *Psoralea orbicularis* Lindl.  
Cor. dark purple. Lower calyx segment as long as keel. Upper calyx segs. very slender, nearly as long as banner. Two white spots on banner, one each side midvein.

No. 7701. *Juncus oxymeris* Engelm.



No. 7702. *Spiranthes parvifolia* Lindl.  
End of lip not expanded especially.  
Glands at base projected down-

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Judgement Co.

ward and adnate to base of lip.  
Flowers pale cream. Wet bottom of creek.

No. 7703. *Elymus glaucus* Buckl.

This grass grew in dry land on a flat.

No. 7704. *Carex densa* Bailey  
dry flats.

No. 7705. *Ranunculus orthorhynchus*  
Hook. Wet flat now nearly dry.

No. 7706. *Bidalsia spicata* Greene.  
Det'd as *S. reptans* Pale pink-lavender.

Dry flat. = *S. oregana* Gray var. *spicata* Jepson.  
No. 7707. *Eleocharis acicularis* R. Br.  
This grew in a dry but formerly wet flat.

No. 7708. *Myrrhis* <sup>Torr.</sup> *nuda* var. *brevifolia*  
Jepson. Dry pasture. <sup>Osmoreuiza</sup>

No. 7709. *Hypericum formosum*  
H.B.K. var. *scouleri* Coulter.  
Meadow.

No. 7710. *Potentilla* = *Horkelia elata* (Greene) Rydb.  
dry flat. Pet. white



no. 7711. *Crepis capillaris*

This composite grew in a wet meadow.

no. 7712. *Brodiaea coronaria* JepsonPulver in center. Stam-  
inodia at side. Dry flat sandyno. 7713. <sup>= *Dichelostemma*</sup> *Brodiaea multiflora* Benth.

Pulver 3, approximate in center. Stammodia purple, involute-tubular in such a way as to leave a slit on the inner side.

Into this slit the edge of each pair of contiguous anthers project and dehisce.

— John D. Williams takes a sentimental interest in the forest and is highly desirous that the pines shall not be cut foolishly but grow on into fine trees. He said that when he first came here there were only large trees and that the forest was an open one. This young

forest here is really a fine one, thrifty, 60 to 120 feet high, but I notice that the old-timers refer to it as "brush". Williams asked the name of a certain plant very common in the forest and I told him that it was called Mountain Misery (*Chamaebatia foliolosa* Torrey). He appreciated keenly the name and said it <sup>plant</sup> was of no use but narrated an incident of the previous day in which two of his horses that he was taking to the horse-shoe browsed it eagerly altho he had never seen horses eat it before.

[It may have been because of being en-  
joyed and nipping at the first avail-  
able green.] However, he continued, after the plants are touched by frost in the fall cattle from the high country will browse the plants, especially if hungry.

Ben Salsby is a brother-in-law of Williams. The <sup>Williams'</sup> came from Missouri; Salsby from Pennsylvania.



- Looked up Robert Marshall once <sup>more</sup>. He says: "Duffield was an active man but I do not know what he did for a living. There were lots of men in those days that had no obvious source of income. Many were gamblers. Duffield was a dead shot and absolutely fearless. He feared no one that he could face. He admitted that <sup>he</sup> was afraid of Ben Smilsky because he had had trouble with him, knew Ben was a dead shot, and was afraid Ben might take him in the back. But Duffield and <sup>Jim</sup> Lyons were bitter enemies. They would shoot on sight. Now that is my reason for believing that Duffield kept out of the high mountains. Jim Lyons was up there and he naturally would stay away from those parts."

So says Robert Marshall, manager here. He is well preserved, has a lively humor and impresses me as being accurate and conscientious in his statements.

No. 7714. *Rhamnus tomentella* Benth.  
Shaw's Flat.

No. 7715. *Rhamnus tomentella* Benth.  
Shaw's Flat.

From Sonora we drove up the hill to Shaw's Flat, took a faint wagon trail along the edge of the placer diggings to a little ravine where in the hollow we found a timbered spring of cold water and camped for the night. The next morning we drove on to Shaw's Flat and took the steep and difficult road which <sup>descends to and</sup> joins the main highway near Jamestown.

"Lyons, Hazelton and Duffield engaged in a bloody affray at Sonora Oct. 2, 1853." "Lyons, Poes and McCauley hanged Dec. 11, 1857" - Hist. Toluimnee Co. by H.O. Long. cf. p. 87 supra.



The Blakesley brothers bought a ranch of Tim Lyons brother. There was a separate transaction as to the property on the ranch and the ranch land. The Blakesleys got Lyons to sign a receipt which later turned out to be a quit-claim to everything. Lyons felt aggrieved at being swindled so, and confided his troubles to his brother Jim. Jim Lyons was incensed and they made up a party to run off the Blakesleys\*. They posted themselves on a mountain where they could overlook the cabin and see what was going on. In the evening they came down and posted the boy of the party (who at the trial turned states evidence) at the rear door. One Lyons stood at the front door and another of the <sup>attaching</sup> party (Poore) shot through the window at the men inside who

\* Cf. p. 87.

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were gathered around a table. The men inside made a break for the outside. The Blakesley who had conducted the swindle was shot thru the breast by the boy with the <sup>loaded</sup> shot-gun. Another of the party was shot <sup>in the chest</sup> across the breast but not injured beyond a scratch. <sup>The third had seen arms shot off.</sup> The others got away out of the front door. At the trial Jim Lyons and Poore were condemned and with MacLanley who had killed a man elsewhere <sup>[at Shasta Flat]</sup> were taken to Hangman's Gulch just westerly of what is now the Standard Mill. It was a great event and everybody who could want to see it.\* Duffield was always riding around on a white horse and cut quite a figure. So at this hanging Duffield saw his old enemy on the scaffold. Jim Lyons in his statement <sup>on the scaffold</sup> declared that Duffield had testified to a lie against him. <sup>at the trial</sup> Duffield responded and said: - That is not true, but in your

\* Dec. 11, 1857.



present position I cannot resent it."

I remarked to Marshall that Ben Sulsby said that Jim Lyons was unjustly convicted. Marshall replied: "He wasn't guilty of that particular killing but the hanging did not come amiss. He had done so many things that he was well gotten rid of."

Marshall spoke of J.D. Williams whom he has known since coming here. The elder Williams couple came across the mountains and stopped near their present place, not going further. These <sup>elder</sup> people had never seen a railway train, nor did they ever see one.

The elder Williams died in 1891.

It is the conclusion of Marshall that by Duffield's Ranch is meant the place in Duffield's Cañon where Duffield lived. He does not warm to Ben Sulsby's suggestion that there could have been a ranch above Coniference.

July 6, 1918.

Bigelow, Botanist to the Whipple Survey, must <sup>have been</sup> entertained two or three days by Duffield and while his guest collected *Sanicula tuberosa*, *Sarcodes sanguinea* and other plants.

Duffield may well have been a "desperado" and "grand man" at once. It is my <sup>own</sup> experience in the wilderness and on the frontier that hospitality, assistance and kindly sympathy are <sup>often</sup> most freely bestowed by the men whom society has in greater or less degree disowned.

Lyons had the advantage of being hanged by due process of law <sup>as charged</sup> altho not guilty of the crime. In early days the hanging was <sup>commonly</sup> without relation to the formalities prescribed by law.

Duffield, says Williams, was killed in Arizona. He attempted to go, altho named upon a mining claim, upon which he asserted a part claim. The man in possession shot him dead. \* p. 87.



Cont.-

It is very desirable that the exact type locality of *Allium tribracteatum* Torr. *Phlox occidentalis* Torr., *Philadelphus Lewisii* var. *parvifolius* Torr. be located. I had been told by going to Sonora that there would be no difficulty in locating Duffield Ranch. "Everybody knows about it," says Mrs. A. L. Grant. I have followed up the stories of the old settlers about Duffield and his associates, hoping, first, by familiarizing myself with those times to ask questions calculated to uncover the mystery of Duffield Ranch, second, to test the accuracy of the various narrators by recording their statements as to Duffield. I came to Sonora to collect topotypes; I find myself involved in the early history of the rough characters of the mining days.

The following plants were collected at Duffield Ranch by Dr. J. M. Bigelow as noted in the Pac. R.

July 6, 1918.

Rep. vol. 4, pp. 61-167.

Duffield Ranch List (Cont. p. III).

- *Parsons Brownii* - *Cardamine angulata*.
- *Ranunculus cuneus* - *Dicentra formosa*.
- *Cornus Nuttallii* - *Cornus pubescens*.
- *Philadelphus Lewisii* var. *parvifolius* <sup>type</sup>.
- *Sauvica tubrosa* - *Viola pedunculata* <sup>(type)</sup>.
- *Silene californica* - *Linum catharticum* <sup>(type)</sup>.
- *Prunus subcordata* - *Horkelia tridentata*.
- *Pterospora andromeda* - *Sarcodes sanguinea*.
- *Hydrophyllum capitatum* - *Nemophila maculata*.
- *Phlox occidentalis*, <sup>type</sup> - *Libocedrus decurrens*.
- *Allium tribracteatum*, <sup>type</sup> - *Carex geyeri*.
- *Carex decidua* - *Pinus Sabiniana*. "Duffield's Ranch, etc. at the base of the Sierra Nevada", p. 141. The inclusion of Duffield's Ranch in this last, <sup>citation</sup> <sup>must</sup> be, I think, a mistake. The other species conform <sup>see p. 112</sup> altitudinally to *Allium tribracteatum*, which is perhaps the test species of the list. I may have missed some species in running <sup>through</sup> somewhat hastily.



No. 7716. ~~Carex~~ *Cyperus virens* Michx.

Oakdale. Edge of irrigation canal. { This could never have been growing on this site in pre-irrigation days.

No. 7717. *Piscaria setigera* Piper.  
(*Erumocarpus setigerus* Bth.)

Sandy land.

No. 7718. *Datura meteloides* DC.

Manitaca. Sand banks.

- Drove back to Berkeley from Sonora via Knight's Ferry, with to antique old mill, to Oakdale, Manteca, Tracy, and Livermore, thence to Berkeley.

- Ben Salsbery said that "one of Duffield's tricks was to break the hydraulic ditch. Duffield was killed in Arizona."

- I understood from Robert Marshall that Duffield Cañon was once called Duffield gulch; that Duffield's cabin was about 1 mile or a little less up the cañon from Salsberyville on right hand side where a little point comes down.

Cont. from p. 107. On p. 24, Pac. R. Rep. v. 4 Bigelow makes the following statement: "I found it [*Liloxedrus decurrens*] fifteen or twenty miles southeast of Sonora, on the headwaters of the Stanislaus and Tuolumne rivers." Now, the Ward Pike place is between the South Fork Stanislaus River and the North Fork Tuolumne rivers on a marked ridge. It is the only place that could be construed as on the headwaters of the rivers named and be within 15 or 20 miles of Sonora.

In an air-line the Ward Pike place is about 12 miles from Sonora and easily 18 by the trail which Bigelow followed. The "southeast" may be a clerical or geographical slip for northeast, since the Pike place is nearly northeast. Moreover there is no Stanislaus River southeast of Sonora nor



even east of Sonora. The altitude of the Ward Pike place is about 4800 or 4900 feet which would be about right for the species noted on p. 107. It is possible that not all the plants of the list were collected at 4900 ft.; some may have been collected on the way up or down. However it is better to assume that the designation is correct, ~~and~~

With reference to *Pinus Sabiniana* (cf. my comment on p. 109) it is to be noted Bigelow himself does not ~~site~~ Duffield Ranch in his own list of *Pinus Sabiniana* localities on p. 25, Pac. R. Rep. vol. 4.

- J. B. Booth said the Ward Pike place was  $3\frac{1}{2}$  miles beyond Confidence.

- On first arriving in Sonora several people said Duffield

July 6, 1918.

Ranch was near Sonora. To pass Gen. Salom, turn right off main street up hill, past Catholic Cemetery, next place past old Schindler (or Schneider) place, left hand side. This is the road, the only one, easterly from Sonora main street, it leads up on to Bald Mt.

- It was also said in Sonora that John Wist, Soulsbyville, knows the old-time ranches. I did not look him up.

Supplement, Duffield Ranch list, p. 107

- *Lathyrus viciifolius* var. *obovatus*, type.
- *Ribes californicum*.

- Duffield Ranch. - Note Soulsby's statement (see p. 112) that Duffield had a ranch above Confidence in 1854. Note Pac. R. Rep. vol. 4, as per title p. 1, that Bigelow was in Sierra Nevada in spring of 1854. Also cf. p. 26, where he speaks of going east of Sonora almost to the snowy regions.



Sonora, July 1918.

- Marshall repeated, evidently with some reminiscence of ancient satisfaction, Duffield's positive prediction of Lincoln's election. "And," continued Duffield, "I am going to be there when he is inaugurated and I am going to shake him by the hand!"
- Map of the Principal Quartz and Gravel Mines in Tuolumne Co. by T. P. Dart. Sonora, 1879. On this map appears "Duffield Q. M.", about  $\frac{1}{5}$  miles east of Arastraville.
- The Ward Pike place was in the beginning Duffield Ranch. In 1854 Duffield had men there making shakes and the place was then spoken of as "Duffield Ranch". The evidence is now sufficiently conclusive and is set forth by Charlotte M. Lord, in Pitt. Aug. 21, 1918. See p. 113 infra. See p. 201 infra.
- Rattan, V. Apparently collected for State Geol. Survey. See "Hypericum anagallodes" C. & S. Geol. Surv. of Cal. 1860-67, no. 257 in U. C. Herb.

Berkeley, 1918.

- Shockley, W. H. His herbarium given to me in 1917. It shows that he has botanized in various parts of Cal., at Eureka (1879), El Dorado Co., 1886,
- Duffield Ranch. See vol. 29 p. 170. See also Heller, A. A., in Pitt. who locates Duffield Ranch at Auburn [26 Aug. 1920, cf. Muhl. vol. , p. . See p. 201 infra.
- In the cemetery at Vacaville are <sup>very</sup> many redwood tombstones, <sup>of the older</sup> many fallen into neglect; one partly fire-eaten, but otherwise sound bears the date Jan. 13, 1869.
- B. B. Irvill lectured on the early days of the Academy at the Cal. Acad. Sci. meeting Aug. 21, 1918.
- California Botanical collectors. Light on place names of the early days. cf. H. L. Mills, The Great Fur Companies and their trapping expeditions to California. In "History Plumas, Lassen and Sierra Counties" by Harris & Smith, p. 94 (1882). In this work is cited (p. 98) Forbs' California. [J. Alexander Forbs, agent of the Hudson Bay Company in California.]



Berkeley, July 17, 1918

— Dr. Peirce of Stanford, who is giving summer school work here, drifted in to my office and apropos of another matter remarked: It seems to me unfitting that just because certain men attend the botanical meetings, they should get all the botanical distinctions and run things. American botany is too much controlled by Coulter, <sup>Harkn</sup> Britton, and Trelease, and counting in Farlow as a "has been". While the man who does good botanical work and does his duty as a citizen isn't noticed. Take Campbell who is better known in England than here."

"I visited Marcus E. Jones in Salt Lake. Of all singular fish he is the most singular. He gets along from hand to mouth. His wife is probably the main-stay. She keeps a boarding house. It may be

Berkeley, July 18, 1918. 115

that they still own the place as their home. It is that kind of a boarding house which always smells of cabbage. Jones makes a precarious living <sup>by</sup> testifying in civil suits. He will testify at \$10.00 per day on any subject with the utmost positiveness. His assertiveness is colossal. His herbarium is in the top of his frail wooden house, and likely to flare into smoke any time. He is hopelessly peculiar and utterly unreliable". — so says Peirce. This brief statement explains some things and throws light on Jones' odd publications.

— Wm. Lobb. *Eriogonum Lobbi* Eng. is a fine species to have named for one and will well memorialize Lobb's expedition into the Sierra Nevada and show that he attained a considerable altitude. If a list of all his cited plants were made it might be possible to indicate <sup>more</sup> definitely his route in California.



116 Berkeley, July 22, 1918.

- Mr. and Mrs. S.B. Parish have arrived in Berkeley from San Bernardino, to be here several months.

<sup>W.B.</sup> - Blasdale is working on the acorns of native oaks. *Quercus Kelloggii* has as high as 23% fat. *Q. agrifolia* runs high in fat, 15%. *Q. lobata* is low, only 6%.

- I went down to the Lummus Herbarium this afternoon to consult *Arctostaphylos Parryana* Lummus. The whole of the Lummus collection with boxes of cones and books and miscellaneous household belongings are stored in a <sup>small</sup> room which was mainly the elevated platform or "stage" of their living room, now walled off. It is crowded very full and one has to move away boxes and tables from the front of

Oakland, July 27, 1918. 117

each set of cases in order to get at the contents of the cases. The families are arranged in a certain sequence and when I finally found *Ericaceae*, *Arctostaphylos* was at once located. There were two sheets of *A. Parryana* with a legend on the outside of each sheet in Lummus's hand. It is not

*A. patula* as I thought it might be. The two sheets were collected at different times in 1888, one having younger berries than the other.

There are two dates on pockets connected with the sheet.

Lummus's original <sup>no</sup> diagnosis is with the sheets. My own detailed notes are to be found under *A. Parryana* in my *Arctostaphylos* collection.

- July 27, 1918. Cont. next p.



Oakland, July 27, 1918.

I was admitted to the place by appointment with Mr. Chas. C. Everett, a nephew of Mrs. Lemmon and her guardian. He said that Mrs. Lemmon, who is still in the State Hospital for the Insane at Stockton keeps about the same, is in fairly good health and reads a good deal. A sister of Mr. Lemmon was also insane. A nephew of C. C. Everett is Dr. Harold St. John of the Gray Herbarium, with whom I have corresponded.

- *Populus trichocarpa* - two or three miles beyond (northerly) from Toll-House, Mt. St. Helena. H.A. Dutton says catkins (fruiting)  $2\frac{1}{2}$  to 4 inches long.

Berkeley to Tahoe, July 29, 1918. 119

- Left Berkeley on the Pacific Limited at 7:00 pm. Chanced in with H. J. Randall, the civil engineer, in the Pullman and we talked of past days in the desert and back country. He said he took great interest in watching the behavior of the Ocotillo after rains, its quick response to summer rain storms, so marked that the limits of a thunder storm in the desert could be determined by the flowering of the Ocotillo.

A bit later Mrs. Stanley Stillman came up to me and said: "How do you do, Mr. Pres. I ran down from the summit for a couple of days and am now on my way back to the Cedars to see once again your splendid book. I take it under my arm and go up on the hill." Here I diverted her to other matters. She is widely traveled and knows California well, - hardly a character of the woods and back country but that she knew him - from the Forks of Salmon in the north to the ferry over the Colorado River opposite Blythe. She delighted in surprising me in this way and with visiting meetings with the members of the Lost Legion.



Lake Tahoe

Came from Truckee to this camp, 3 mi. southerly from Tahoe City, on lake shore. A fine camp spot with the clear expanse of the lake stretching to the mountains in Nevada State.

The plants here are:

*Pinus ponderosa*

*Abies concolor*.

*Ceanothus velutinus*.

*Amorpha racemifolia*  
(but not the extreme type).  
*Melancholia alnifolia*

This is the camp of H.A. Det-  
ton and family. The situation  
is very pleasant. The waters of  
the lake show a beautiful blue at  
times, then green or dull.

alt: 6300 ft.

July 30, 1918, Tahoe City, 121

Placer Co.

No. 7719. *Pentstemon speciosus* Dougl.  
Corolla blue, on the outside dis-  
posed to be pale or whitish but a  
bluish ground. The blue of the limb  
is nearly blue-purple. Cor. deeply  
bilobate. Lobes upper lip recurving.  
Lobes lower lip spreading. All the fila-  
and the style and ovary glabrous.  
Herbage microscopically canescent.  
Pine flats, half open.

No. 7720. *Lonicera*

Spreading many-stemmed  
roundish bush 20-24 inches h. and  
twice as broad. Open pine flats. Berry  
crimson.

No. 7721. *Wyethia mollis* Gray.  
Anns 4 or 2. Rays yellow.

No. 7722. *Erigeron breweri* Gray  
Rays lavender! Disk golden!  
Pine flats.



## Lake Tahoe near Tahoe City

- ✓ No. 7723. *Lupinus albicanlis* Dougl.  
var. *andersonii* <sup>Tahoe</sup> Open pine woods. Wings light  
blue; keel white; banner, sides  
white with blackish dots, sides  
bluish-white, turning reddish in age.  
Keel not ciliate. [I decide it is not  
var. *andersonii*, but the species.] = var. *proximus*  
<sup>Jappon.</sup>
- ✓ No. 7724. *Eriogonum spargulinum*  
var. *reddingianum*  
Pine flats.
- ✓ No. 7725. *Ceanothus cordulatus* Roll.  
Pine flats.
- ✓ No. 7726. *Amelanchier* <sup>pumila</sup> *alnifolia* Nutt.
- ✓ No. 7727. *Lappula velutina* Piper.  
Corolla blue! Pine flat.
- ✓ No. 7728. *Paeonia brownii* Dougl.  
Pine flat.
- ✓ No. 7729. *Eriogonum nudum* var. *deductum*  
Pine flat.
- ✓ No. 7730. *Achillea millefolium lanulosa*  
Pine flats.

July 30, 1918. Place 123

- No. 7731. *Bastillea*  
Leaves broader, greener, denser  
than in the next - Pine flats.
- ✓ No. 7732. *Bastillea miniata* Dougl.  
with 7731.
- ✓ No. 7733. ~~*Bastillea*~~ *Tritelia* *hyacinthina* Baker  
Edge of meadow.
- ✓ No. 7734. *Deschampsia caespitosa* (L.) Beauv.  
This grass grew in edge of meadow.
- ✓ No. 7735. *Carex vesicaria* L.  
with 7734, in meadow
- ✓ No. 7736. *Juncus nevadensis* Wats.  
with 7734
- ✓ No. 7737. *Ceanothus velutinus* Dougl.  
Stems many, widely spreading  
or merely ascending, forming clumps  
3 to 6 ft. high and 2 to 3 times as  
broad. Very common. One of the  
most abundant shrubs near the  
lake shore, the other *Arctostaphylos*  
*patula* Greene.



No. 7738. *Quercus vaccinifolia* Kell.3-4 ft. h. Spikes with as many  
as 11 acorns set.No. 7739. *Carex Douglasii* Boott

Brockway, in meadow

*nauseosus*No. 7740. *Chrysothamnus* var. *speciosus*  
(Nutt.) Hall on sand-dune, shore of  
lake.No. 7741. *Purshia tridentata* DC.

1 1/2 to 2 ft. h. with 7740.

No. 7742. *Hesperis purshiana* Bth. var.  
*minutiflora* Ott. Fls. white.No. 7743. *Asclepi*

Open sandy flat. Rays bluish.

No. 7744. *Elymus triticoides* Buckl.This grass grew in the sand  
by lake shore.No. 7745. *Chaenactis*

Lake shore.

No. 7746. *Calamagrostis canadensis*

This grass grew by lake shore.

No. 7747. *Pentstemon confertus*  
with 7745No. 7748. *Alnus tenuifolia* Nutt.  
By stream swamps.No. 7749. *Juncus nevadensis* Wats  
In meadow.No. 7750. *Juncus nevadensis* Wats  
In meadow.No. 7751. *Sidalcea spicata* Greene.  
= *S. oregana* ssp. *spicata*  
Meadow. Cor. pink-red.No. 7752. *Sambucus*.Leaflets at base of season  
shoot often only 3. Leaves near  
flowers <sup>or</sup> on reproductive shoot with  
5 leaflets mostly. Sterile shoots  
with many leaflets.No. 7753. *Polygonum*In and on edge of shallow  
pond.



Lake Tahoe, July 31, 1918.

- *Populus trichocarpa*. Is not uncommon along streams and by lake margins, about Lake Tahoe. Trees 90 to 100 feet high are not uncommon.

- *Phacelia compacta* Greene, cont. from p. 188, no. 7866. I make this a form of *P. frigida* Greene, that is, *P. magellanica* var. *frigida* (Greene).

- *Gilia floccosa*, p. 130 sq., #7757, the filaments appear to be inserted in middle of throat as per lab. dissection. See pocket in herb. The field observation as recorded on p. 130 seems to have been faulty observation.

Lake Tahoe to Reno, Aug. 1, 1918.

- Leave down the Truckee River, a very beautiful stream, to Truckee where we stopped for gasoline for the engine. Thence over the hills by Prosser House and down to Verdi, a pleasant spot on the Truckee River. Thence along the Truckee River to Reno. Reno is a clean and neat town with many substantial buildings and good business streets. Here we, H. A. Dutton and myself, took on a stock of provisions for the Mada trip. We went out of town by Sierra street which led into the Susanville road. The hills are characteristic sagebrush ranges with lake valleys lying between. Near Antelope we see *Purshia tridentata*, rough and ungainly, making larger spots, that is individuals, of <sup>dark</sup> green in the gray. Near Chat we ran over a rattlesnake in the road but without hurting him. I went <sup>back</sup> and threw my botanical pick<sup>^</sup> at him, cutting off  
- cont p. 129.



- Antelope Brush (*Purshia tridentata*) 4 ft. h. and very stocky to the ends, or with many stems from the base and forming a low bush, the stems similarly stocky out to the "witch-broomy" tips. The taller form, here, is lanky, gaunt. Bark light brown, very shreddy in heavy shades. On the younger branches it is smooth and suggesting a peach or plum bark. Also found 6-8 ft. h.!! Trunks <sup>to</sup> 3 to 5 inches in diam! Wood hard. Leaves rather bitter at first, very bitter at the last.

Individuals up to 8 and even 10 ft. h. were noticed in Honey Lake Valley and in Long Valley. See p. 140, 142.

his head at the neck. Dutton thought this quite a feat and made some laughing remarks about accuracy. We ran into beds of *Argemone mexicana* and Dutton inquired if they were like blue poppies. I remarked that people often told me that they had seen *Matilija* Poppies in Nevada! A further remark about *Dendromecon* and I replied that we called it Tree Poppy merely to emphasize its woody character but it were better called Bush Poppy. We come in now below or rather almost into Beckwith Pass, a plain gap in the mountain range west of us, and go into camp. The wind sucks down thru the pass rather strongly but dies a bit by sunset. There is a spring, <sup>abandoned</sup> or a clearing above it, on which flourishes a great crop of *Nicotiana* no. 7760 and other plants.



Beckwith Pass. 4800 ft.

no. 7754. <sup>TYPE</sup> *Jayophytum* <sup>Helleri var.</sup> *erosulatum*  
Jepson. Herbage grayish. Pts.  
white, *erosulata* all around,  
elliptic, in fl. early am. Sandy hills.  
Stigma white, circular = *J. helleri* Rydb.  
var. *erosulatum* Jepson.

no. 7755. <sup>TYPE</sup> *Jayophytum ramosissimum*  
T. & G. var. of *trium* Jepson. Herbage reddish. Branches  
more filiform than in 7754. Not  
in fl. early am. Pts. quadratisch-  
oblong, entire! white. Stigma white.

no. 7756. *Thelypodium* ~~*brachycarpum*~~ <sup>var. *foer.*</sup> *crispum* Jepson. This crucifer has very  
narrow much exserted petals.  
Stamens distinct. Pts. white. Sandy  
hills.

= *Eriastrum filifolium*  
*filifolia* Nutt., not

no. 7757. *Gilia* *floccosa* Gray.  
var. *spariflora* (Eastw.) Corolla very pale lilac.  
Stamens exserted from tube but  
inserted at sinuses! Throat

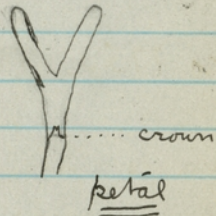
\* See p. 126.

Lassen Co. Aug. 2, 1918.

Yellowish with maroon markings  
at base of petals. anthers and  
stigmas white. Cor. lobes oblong.  
Sandy hills.

no. 7758. *Silene pectinata* Wats.

From a heavy  
deep-seated top  
root. Erect. Petals  
pink, notched as  
in sketch, the  
limb and lobes  
narrow. Crown small, acute or  
notched. Two upper petals, when  
flower is drooping, tending to  
be straight and left.



no. 7759. *Centaurium exaltatum*  
Wight. Seepage swale below spring.  
Cor. lobes pink. Stigmas 2, ☉,



thus, filling mouth of tube on antheris, after anthers are past, somewhat exerted, offering an opening to mouth of tube.

- ✓ No. 7760. *Nicotiana attenuata* Torr.  
Glands on calyx <sup>narrow</sup> pyramidal, 4-cells high; rather heavy-based pyramid. Cor. white, its limb narrow. Calyx-lobes sub-equal. Stamens equally inserted low on corolla tube.

- ✓ No. 7761. <sup>= *Cryptantha*</sup> *Piptocalyx circumscissus* Torr.  
This sorage grew on the sandy hills. = *Greeneocharis circumscissa* Rydb.

- No. 7762. *Euphorbia*  
With 7761.

- ✓ No. 7763. *Lepidium virginicum* L.  
with 7761.

- ✓ No. 7764. *Eriogonum vimineum*

with 7761.

- ✓ No. 7765. *Lappula occidentalis* Greene.  
= *L. radowskii* Greene.  
This sorage has trailing stems, white fls., and grows with 7761.

- No. 7766. *Gloriozanthus Watsonii* T. & G.  
with 7761.

- ✓ No. 7767. *Oenothera tancetifolia* T. & G.  
In habit and especially in flowers conspicuously like *O. ovata*; the leaves of course very different. Sandy hill top.

- No. 7768. *Ranunculus cymbalaria* Pursh.  
Seepage swale below spring

- No. 7769.

This chenopod grew with 7767.

- No. 7770. *Pectocarya penicillata* A. DC.  
This sorage grew with 7767

- No. 7771. *Polypogon monspeliensis* (L.) Desf.  
(det. Beecher Crampton, March 1923)  
This grass grew with 7767



No. 7772. *Eriogonum baileyi* Wats. var. *baileyi*  
with 7761.

No. 7773. *Mentzelia dispersa* Wats.  
with 7767. See p. 141.

No. 7774. *Eschscholzia*  
*californica* Cham. var. *crocea* Jeps.  
Herbage quite glaucous.

Petals yellow, of a different shade  
of yellow below, almost as if the  
yellow had been extracted and  
the fabric made silky, a sort  
of white-silky-yellow. Not very  
marked color, but evident to  
the eye when one notices it.  
with 7767.

No. 7775. *Agoseris heterophylla*  
This cichoriad grew with

no. 7768, but lower in the seepage  
swale, where not so wet.

No. 7776. *Lagophylla ramossissima*  
Nutt. This composite grew on the  
sandy hills.

No. 7777. *Amsinckia* <sup>*Menziesii*</sup> ~~*helleri*~~ Brand.  
See p. 140 with 7775. See p. 149.

No. 7778. *Erigeron divergens* T. & G.  
with 7775.

No. 7779. *Gnaphalium*  
with 7775.

No. 7780. *Muhlenbergia asperifolia* (Nees &  
Det. Beecher Crampton, Mar. 1923) <sup>Mex.</sup> Parodi  
This grass grew with 7768.

No. 7781. *Lactuca pulchella*  
This cichoriad grew  
under the edge of the willows on  
lower bench of Long Valley Creek,  
one mile below Boni Ranch house,  
Long Valley.

— We drive from upper Long Valley over  
the sagebrush hills to Long Valley. On the  
left continually is the innermost Sierra range  
with a band of pine on its upper slope. On the  
right a sagebrush range with a showing  
of Juniper on its upper slopes. We stop at  
noon by Long Valley Creek, Boni Ranch, Long Valley,  
for noon lunch.



No. 7782. *Rosa woodsii* Lindl. var. *ultra montana* Jepson. With 7781.

No. 7783. *Smilacina stellata* Desf.

Three broad black bands longitudinally over partitions! These do not run quite to apex but stop short of it very distinctly. The three black lines run intermediately and to the top. Gregarious on lowest bench, with 7781.

No. 7784. *Mentha arvensis* L. var. *-var. villosa* canadensis Briq. Cor. whitish or pale lavender, that is almost white but lavender tinted. With 7781.

No. 7785. *Scirpus americanus* Pers. with 7784

No. 7786. *Scirpus acutus* Muhl. with 7784. The roots are fed upon by ducks and geese.

No. 7787. *Iva axillaris* Pursh.

Known as "Death Weed" in Honey Lake Valley and said to kill out alfalfa wherever it occurs. On account of its extensive root system it is difficult to eradicate.

No. 7788. *Prunus andersonii* Gray.

This has been common in the Sage-brush as scattered individuals as the way from Crocker. 3-5 ft. h. Called "wild Plum" in Honey Lake Valley. Fruit size of a cherry.

No. 7789 *Tetradymia canescens* DC. 1 to 4 ft. h. Honey Lake visit the fls.\*

No. 7790 *Lygodesmia spinosa*

Slender annual from a heavy root crown, arising from very large winter buds.

\* = yellow Sage acc. to Fred Baker. It is a browse shrub, is fed upon by honey bees, and is the cause of Sage Fever which affects many persons very seriously when in flower. Sage Fever is similar to Hay Fever.



No. 7791, *Salsola Kali* var. *tenuifolia*  
J. F. W. Mey. The Russian Thistle

This is said by Fred Raker not to  
have been in the country before the  
Western Pacific Railroad came through.  
It makes good stock feed if cut  
while young and green. Long Valley.

No. 7792. *Eriastrum filifolium*  
*Gilia floccosa* Gray.

Sandy sagebrush. Cor. light  
blue, darkening somewhat in drying.  
Long valley.

No. 7793. *Castilleja miniata* Dougl.

Constantia. Side gulch

by <sup>small</sup> Black Oak colony. Honey Lake Val.

No. 7794. *Juncus xiphioides* Mey.  
Constantia. Honey Lake Val.

No. 7795. *Elymus cinereus* Scribn. & Merr.  
(Det. Beecher Crampton, July 1922)

This grass forms very

heavy stools, compact and dense, 4 to 4 1/2  
feet high. Constantia, Honey Lake Valley.

See p. 148, 143.

No. 7795. *Elymus cinereus* Scribn. & Merr.  
No. 7796. *Erismum* (Det. B. Crampton)

5 ft. tall. Sandy sage-brush.

Very paniculate. fls. crimson.

No. 7797. *Vaccaria* <sup>*secialis*</sup> *vulgaris* Host:

Fields, common at Raker Ranch.

- Leaving Long Valley the road winds  
to the left and passes over a low  
divide or rather ridge, at the summit  
of which the plain expanse of Honey  
Lake comes into view surrounded by  
desert ranges, except on the west where  
fine slopes show. We pass Constantia  
and Milford, way stations, and stop  
for the night by pulling off the  
road into the brush at the Raker  
Ranch. There are two Raker boys here,  
young fellows. Their great uncle came  
from Germany and could not speak  
English. He took up the land which is  
now held here by the Rakers as several



rancheos. Congressman Raker from this district is an uncle. Another Raker, brother of Congressman Raker, succeeded the latter as Judge of the Superior Court of Modoc Co.

- *Amorpha* no. 7777 is called Firweed in Honey Lake Valley. "A piece of it [the leaf] gets down your neck in haying; it burns like everything" says Fred Raker.

- *Purshia tridentata* DC. Called Greasewood in Honey Lake Valley. It is a valued browse shrub, especially for winter forage. Cattle "go to it" especially in the early spring before the grass starts. Snow falls heavily usually by January, or by Christmas and lasts until March 1. There is more snow than rain. During this winter period Antelope Brush is a valued resource. The young shoots, that is those of the season, are eaten down.

close. This shrub is evergreen. See p. 128. See also p. 162 at bottom.

- Cont. of no. 7795. This grows commonly 5-6 ft. h. It is called Ryegrass in this valley. Cattle eat it in the winter (when there is little other feed). It is also put up for hay by some stockmen. - Raker Ranch.

- *Neutzelia* no. 7793. This often comes up abundantly in the cult. fields. At Raker Ranch it was very abundant one year in a field which for some reason (drought?) was not harvested and the Indians (Mahalas) came from long distances to thresh out the seed in their harvesting baskets to make pinole.

- *Quercus Kelloggii* occurs at Raker Ranch and at Constantia and Bellevue. The deer come down from the Sierras to feed on the acorns says Raker. The Indians also gather the acorns.



Honey Lake Valley, Lassen Co.  
for bread-making still.

— The Sierran wall rises very sharply to the west of Baker Ranch,  $\frac{1}{4}$  mile or so from the ranch house, but not rising very high, perhaps only a thousand feet.

— *Purshia tridentata* DC. See p. 128.

Between Baker Ranch and Lassen the sage-brush flats are thick with Antelope Bush. The sage-brush (*Artemisia tridentata*) is 2 to 3<sup>or 4</sup> feet high, the *Purshia tridentata* rises above it in ragged but mostly narrow shrubs of irregular outline 5 to 10 feet high. The Antelope Bush shrubs are all browsed. The low ones 2 to 3 feet high are very dense, the lower parts of the taller ones are similarly dense. The effect of these ~~abundant~~ browsed shrub is like a clipped Monterey Cypress. The rig<sup>id</sup>

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browsing induces a short dense growth resulting in a close even and often formal outline. Sometimes the shrub gets above the reach of cattle and the upper growth is open and in strange contrast to the growth of the lower part of the same shrub. The cattle browse the season's shoots. The shrub is called Buck-Bush as well as Greasewood.

— Lombardy Poplars grow finely in this region and are used to fine effect as borders to home yards, avenues, or home fields.

— Cont. no 7795. This grass is sometimes abundant on sandy flats and probably was at one time more common than now.

— Rosa no. 7782. This is very common, forming great thickets in places.

— The ant holes are objects of



Some interest at Baker ranch. They make bare <sup>circular</sup> spots, where nothing grows or will grow, 6 to 9 feet in diam.

On these spots are, sometimes, piles of miniature stones which the ants have brought up from their underground galleries. I do not notice any zonation of the circle as in the Death Valley hills. Two ants are guiding along a large beetle, many times larger than themselves, toward the hole. The beetle is still alive and assists his captor by using his <sup>own</sup> legs. Altho the two ants seem in need of assistance and there are plenty of other ants about none come to aid them, intelligence of aid being necessary probably by scent or touch. The beetle walks more rapidly and still more rapidly,

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shakes off one captor, starts to fly and shakes off the other captor and flies away.

- Baker says there are bands of wild horses on Hot Springs Mt. on the opposite side of the lake. He captured several of the horses by running them down, a patient task of three days.

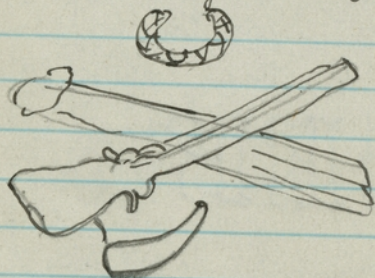
- We go on to Buntingville; to Janesville renamed Lassen, a clean village with neat distinctive buildings; through the woods with <sup>small</sup> farms every little while, past Winfield place, quiet in city-fashion, where there is a park holding deer, elk and buffalo, to the Holzman farm where we are entertained at lunch. On the hill just back of the new barn west of the dwelling house used to be the cabin of Peter Lassen, and  $\frac{1}{2}$  half-mile beyond at one side of the road is the grave of Lassen.



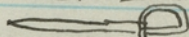
146 Peter Lassen's Grave, Lassen Co.  
 the old monument being in place,  
 the new monument recently erected  
 being very conspicuous. The  
 monuments stand in a little grove on  
 open cluster of Pinus ponderosa. The  
 old monument is in good taste.  
 It reads:

(South side)

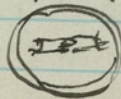
In Memory of Peter Lassen, the  
 Pioneer, who was killed by the Indians  
 Apr. 26, 1859, aged 66 years.



(East side)



With



(Clasped hands.)

Aug. 3, 1918. 4000 ft. 147  
 (North side) Lassen Co.



In Memory of Peter Lassen  
 (Stone weathered, in distinct)

Hope

Eccles.



Ch. 12

(West side)



(eye)

Charity



The Pinus ponderosa tree near the stone  
 is 26 ft. circ. at 4 ft. The new monument  
 is quite showy and vulgar.

No. 7798. Lupinus confertus Kell.

Raker Ranch. Coloring the fields in  
 front of Peter Lassen monument also.  
 No. 7799. Artemisia dracunculata L.

No. 7800. Prunella virginiana var. melanocarpa ~~halp.~~ Shrubs 4  
 to 8 ft. h. Common. Heavy with fruit.

No. 7801. Rosa woodsii Lindl. var. fruticosa  
 very abundantly. Common. (ultramontana  
Japon.)

No. 7802. Silene pectinata Wats. Dry  
 land. very glandular.

All the above collected at Raker Ranch  
 near Buntingville, Honey Lake Valley.



Susaville to Horse Lake

- We run into Susanville, a neat-  
 well-built county seat for this  
 remote desert-region, thence over  
 the range northwesterly to Willow Valley.  
 On the northerly slope of the range  
 is *Cercocarpus ledifolius* and a  
 thin forest of Yellow Pine (*Pinus*  
*ponderosa*) and Jeffrey Pine (*var.*  
*Jeffreyi*). We climb the next  
 range which is very barren and  
 go down in Horse Lake Valley,  
 camping on its southerly edge  
 for the night. Horse Lake is now  
 dry. The scene is not unlike  
 a dry lake in the Mohave San  
 the juniper\* slopes and absence  
 of *Larrea tridentata* and *Franseria*  
*dumosa*. More correctly speaking there  
 is not one species in common  
 that I notice just now, the exception  
 of *Artemisia tridentata* hardly count-  
 ing since it occurs only at higher  
 \* *Juniperus occidentalis* Cont. p. 150

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[Cont. No. 7777. Fred Baker in telling us  
 of the interesting native plants on his  
 ranch in Honey Lake Valley spoke of a  
 plant called Fire-weed with rough  
 sticky leaves and small yellow flowers  
 which is very annoying to the workers  
 in the hayfields in harvesting. I ques-  
 tioned him on the plant and decid-  
 ed <sup>privately</sup> it was *Mentzelia* no. 7773. Later  
 he stood by as I was changing dries  
 and pointed out *Suaeda* no. 7777  
 as Fire-weed!! <sup>See p. 140.</sup> It is ever my  
 practice to refrain from giving out  
 identifications on popular <sup>verbal</sup> descriptions  
 of plants, since the conventional  
 egotistical botanist who is omniscient,  
 omnipotent and omnipresent distributes  
 many false names in that way.)  
 It is so easy to confuse. Both the above  
 plants have yellow fls. of about the  
 same size and sticky-rough leaves  
 and somewhat similar habit!]



150 Hill Summit n. of Shumway 3 mi.  
Near Horse Lake <sup>Lassen Co.</sup>

Cont. from p. 148. altitudes in the Mohave  
The shrubs here at the night camp  
are *Artemisia tridentata* (dominant)

*Chrysothamnus* no. 7808 and  
*Tetradymia* no. 7804. Further  
along, towards the head of the lake  
on richer sandy soil occurs  
*Chrysothamnus* no. 7813, a species  
which was common about the  
southerly shores of Honey Lake.

We wind gradually upward  
through low hills covered with  
*Juniperus occidentalis*, often fine  
trees amongst the various groves.  
Sage-brush as usual, *Sarcobatus*<sup>open</sup>  
*varinculatus* on a rocky point near  
the lake with *Prunus demissa*, *Cerc.  
carpus ledifolius* becoming con-  
siderable trees on the higher hills

Nowhere since Beckwith Pass have  
I noticed a shrub species of *Atriplex*.  
This offers one of the great

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Differences between this country and the  
Mohave and yet the general effect-  
and color tones are the same.

Horse Lake. 5100 ft.

No. 7803. <sup>Lassen Co.</sup> *Amaranthus*  
(discarded) - <sup>fragmented</sup>  
dry pool flat.

No. 7804. *Tetradymia glabrata* Gray  
12-15 or 24 in. h.

No. 7805. *Sarcobatus varinculatus* Torr.  
Bushes 4-5 ft. h. very erect.

Bushes ♂ with a few pistillate fls. at  
base of the inflorescence; bushes  
wholly ♀; bushes wholly ♂. The  
infl. as a whole, the reproductive  
shoot, consists of an axis with  
short spreading somewhat spin-  
like branches, these bearing leaves  
which stand or rather curve stiffly  
or rigidly upright like Red Fir leaves  
and suggesting a fir very strongly.  
This feature was more noticeably



apparent in the ♀ shoot.

No. 7806. *Grayia spinosa* Moq.

Rough ragged shrub with stems  $3\frac{1}{4}$  in. diam. and gray bark; 2 ft. h. Rocky point. Horse Lake. Does not look like the Mohave shrub.

No. 7807. *Cirsium*

3 ft. h., rocky point, Horse Lake.

No. 7808. *Chrysothamnus* <sup>*nauseosus* var.</sup> *consimilis* (Greene) Hall  
 $1\frac{1}{2}$  to  $2\frac{1}{2}$  ft. h. The most

common species about our camp at Horse Lake. See p. 168.

No. 7809. *Artemisia ludoviciana* Nutt.  
Meadow flat. Horse Lake

No. 7810. *Geum strictum* <sup>Soland.;</sup> <sup>Art. Hort. Kew.</sup>  
<sub>= *G. macrophyllum*</sub>  
2: 217. Meadow flat. Horse Lake.

No. 7811. *Iris missouriensis* Nutt.

Mdw. flat. Horse Lake.

No. 7812. *Solidago*

Mdw. flat. Horse Lake.

No. 7813. *Chrysothamnus viscidiflorus* (Hook.) Nutt. Leaves linear, spreading and somewhat curling. No, noticeably curling! See p.

- Shumway, the old postoffice, is now discontinued. The ranch was bought by Johnnie Long, the big cattleman, who moved to it from his old ranch further around the lake. He is the biggest cattleman in Lassen County and has now about 8000 head of cattle.

We climb gradually up thru the lower hills to higher ones. The cover is *Artemisia tridentata*, *Juniperus occidentalis*, a great deal of it and often rather dense with frequent large trees 30 to 40 ft. h. We stop for lunch near the summit and camp under a cluster of large ones, one being 9 ft 9 in. at 4 ft. The other shrubs are *Cercocarpus ledifolius*.



well-developed, the trunks 9 to 15 in. diam. at the ground, and *Purshii* *tridentata*. We run down a long even grade of low per cent and finally came out onto the Madeline Plains. Near Horse Lake a big coyote, red-brown or gray, trotted sedately across the road and passed up the slope and stopped on the crest of the rock ridge, turning to survey us and presenting a broadside. As long as our machine traveled, we were moving slowly, he was very calm in his movements and after stopping continued to stand still as long as we were moving. The moment the machine stopped he put his tail over the crest and we could see that he had turned and was watching us thru the ragged rock rim. He had been down to a

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arch-hill near the lake bottom hunting for jack-rabbits probably. Sutton says a coyote can not run down a jack-rabbit in brushy country as the rabbit has a chance to double and hide in the brush. In open country his coyotes <sup>acting in concert</sup> will run down a rabbit since the rear coyote will cut across when the rabbit dodges. As much as I have traveled about California I seldom see coyotes altho one <sup>hears</sup> them constantly at night. One day I was traveling through a deep barranca near Victor in the Mohave Desert. The barranca had sharp turns and I nearly stepped on a big coyote on turning a corner. I was thinking of plants and the coyote was thinking of hunting plans, and neither of us expected to meet in that way. Both of us were surprised very



Madeline Plains

much and the coyote vanished suddenly, altho he could not resist stopping one instant to look around as if he might have made a mistake or had an optical illusion. The coyote today had the same indifference to exertion. It takes real danger to force a coyote into full action.

At last we came down into the Madeline plains. Why not valley? as elsewhere. Because the old lake bed altho surrounded by mountain ranges stretches out everywhere between the ranges and the plains are really very broad and there is no distinct valley of closed boundaries as in Horse Lake Valley or Willow Creek Valley. The whole of the old lake floor of the Madeline Plains is densely covered with *Artemisia tridentata*.

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It is a practically pure stand, altho occasionally there is a little of *Chrysothamnus* no. 7808 and of *Tetradymia* no. 7804. These plains desolate, hopeless, forbidding, are filling with settlers, recently come in. There is promise of irrigation water from Tule Lake. We pass Fermo and Madeline settlements and ascend to the summit of a divide on the flat summit of which we camp for the night.

On coming down into the Madeline Plains Sutton shot a large hawk, perched in the summit of a juniper tree. The juniper here is still *Juniperus occidentalis*.

Keefer is a postoffice on a road other than that which we followed to Madeline. It lies further west.

The Prairie Dogs we met at Horse Lake and Madeline Plains.



- This morning early 5 Brant Geese flew over going south. We break camp and go down grade. The Junipers are abundant, the trees of every shape, globose crowns, triangular crowns, broad crowns, narrow crowns, open crowns, dense crowns. I noticed one tree near camp which was low, rounded and very dense, so dense that I spoke of it as the Mushroom Tree. We soon see the valley of the South Fork of Pitt River. There comes into view likewise the southerly extremity of the Warner Range to the east. The low gap at the summit of which we made night camp is garded on the west by South Fork Peak, first high, tho it does not look it. A little pine, doubtless *P. jeffreyi*, appears on its slopes. On the east of the gap is

We run down into the South Fork valley, its floor filled with farms, a great number of haystacks standing in the valley in every direction. Likely is a not unimpressive village. We go on, the road running along the lower slopes of the mesa, which bounds the river valley. - See p. 161.

No. 7814. *Limonanthus* *harknessii* Greene.

Camp at summit near South Fork Peak. 5400 ft. See p. 160. <sup>1/2</sup> road

No. 7815. *Navarretia* ~~intermedia~~ <sup>tridentata</sup> Hook. with 7814 ~~not. profingua~~

No. 7816. *Eriogonum vimineum* 5300 ft. Madelin Plains, Angles

No. 7817. *Eriogonum vimineum* Madelin Plains, Angles

No. 7816.

No. 7818. *Artemisia tridentata* Nutt. ssp. <sup>tridentata</sup> with 7814. 12-15 in. h.

No. 7819. *Artemisia tridentata* Nutt. ssp. <sup>tridentata</sup> with 7818. 2-3 ft. h.



160 Near South Fork Peak, Lassen Co.

- No. 7820. *Ribes vulturinum* <sup>4800 ft.</sup> Aug. 5  
Greene. Greenish-yellow  
but dull-colored or pale berry  
at this stage. Bush 4 ft. h.  
Some branches spiny, some not  
at all. Shrubs very spiny have  
been noted alongside of shrubs  
spineless or apparently so on  
casual observation. With *Juniperus occidentalis*, *Bercocarpus ledifolius*, *Amelanchier alnifolia*,  
down grade from summit - (see  
7814) about one mile.

*Amelanchier alnifolia*, to my  
surprise, I have noticed in the  
Sage-bush since Long Valley, occ-  
asional individuals or small  
clumps in the driest and most  
exposed <sup>spots</sup>. It looks exactly like our  
Coast Range thing but is not  
fruiting.

South Fork Pitt River near Likely. Aug. 5. <sup>1918</sup>  
Nevada Co.

- In the South Fork Valley near Likely  
(cont. from p. 159) I stop and  
gather the following from the banks  
of an irrigation ditch and from the  
ditch itself. Alt. 4500 ft.

- No. 7821. *Potamogeton foliosus* Raf.  
var. *macellus* Fern.  
No. 7822. *Lemna*. Likely.  
No. 7823. *Potamogeton*  
No. 7824. *Sium cicutae-folium* Gmel.  
No. 7825. *Sagittaria*. Fls. white.  
No. 7826. *Beckmannia syzigachne* (Steud.) Fern.  
(Det. Becker Crampton, 1922)  
This grass grew on the very  
bank of the irrigation ditch.  
No. 7827. *Carex*. Meadow flat.



No. 7828. *Amaranthus californicus*  
Alturas. <sup>Nevada</sup> ~~Utah~~.

- *Sarcobatus vermiculatus*  
Many-stemmed, 4 ft. h., common  
on alkaline flats South Fork Pitt  
River.
- *Eremocarpus setigerus* Benth.  
Common on a hill n.e. of Alturas  
about 3 miles. I do not re-  
member seeing this anywhere  
between Reno and Constantia. I  
do not definitely recall seeing it  
at any time on this trip, i.e.  
anywhere east of the Sierra crest.
- Alturas is a very decent town  
for this sagebrush country which  
looks exactly like Nevada and is  
part of it biologically.

- Cont. from p. 141 at top. This state-  
ment is a mistake or slip. L. S. Smith  
writes me Apr. 1, 1932, that *Purshia*  
*tridentata* is deciduous.

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Judge Harris was for long Superior  
Judge of Nevada Co. He was an over-  
bearing autocratic man, constantly  
in quarrels and fights. Representative  
Raker bears a gash scar across  
his throat made by Harris' hunting  
knife. It is remarkable that such  
a man should receive the suffrage  
of the people for judge, but Sutton  
wisely remarked that people would  
want to get behind the man, both  
literally and figuratively, who was a  
dead-shot and quickest on the  
trigger; he is a good-fellow, - when  
he is sober; he fights for his  
rights and that's the kind of a  
man who will stand up for us  
and see that we get a fair show.

Alturas was named by Judge  
Harris who made a great show of  
learning but probably had only a  
grammar school education.



- Davis Creek is a small village with several streams flowing from the Warner Range thru it to Goose Lake. The Austin Ranch, where Mrs. Austin, the botanical collector lived, lies one mile west on the flat valley along Goose Lake. Goose Lake is a large body of water with well-defined shores. I had thought of it as bordered by marshes and tule lands but it is a fine sheet of water surrounded on every side except the east by low ranges.

The Davis Creek country is an old farming community, the oldest in the county probably, filled with small farms, many of them - every  $\frac{1}{4}$  or  $\frac{1}{2}$  mile is a small farm or sometimes a large one. Numerous streams and irrigating ditches flow from the Warner Range to the lowland bordering the southeast side of the lake.

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- A new pest occurs here, *Lygodesmia* <sup>ired</sup> *spinoza*, north of Davis Creek. It occurs more abundantly in Surprise Valley, one mile north of Cedarville on the Pinehart place. It occurs in the alfalfa and ruins the alfalfa for feed since cattle finding the spines when feeding will back away and leave it alone, so terribly sharp and cutting are the spines.

- No. 7829. *Prunus subcordata* Benth. Plums a beautiful crimson, the branchlets carrying clusters of fruits 3 to 10 in number, making a fine show in the blocks of rock where it grows. Used for preserves very generally by the settlers and makes an especially fine jelly. Nearly ripe now.



(dup. of #7829)

No. 7830. *Prunus subcordata*. Benth.

The fruits of this are still very green and only slightly purplish-blushed. They ripen two weeks later than 7829 and are much more bitter, so much so that they are little used. Grows near the other. They also speak of a yellow-flesh plum, a third variety. I brought to camp plums of 7829. They are beautiful to look at and Dutton asked if they were ripe. I said they were still pretty sour. If you tell a man the moon is a million miles away he will believe you, but if you put up a sign "fresh paint" he will decide to make a personal investigation to confirm your veracity. Dutton investigated the plums and on the instant shouted Gee Whiz and threw the

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plum with emphasis "Is it that a terrible bitter"?

- Mrs. R. M. Austin. The initials are her own <sup>(not her husband's)</sup> and R probably stands for Rose. She now lives in Chico with her husband and daughter Mrs. C. C. Bruce. Another daughter Mrs. Hark lives at Quincy. Mrs. Shedd, a farmer resident of Davis Creek, says that Mrs. Austin had "tons of dried plant" of every kind and that she had a good market for her botanical wares. Tom Briles, Horticultural Commissioner of Modoc, who lives 4 mi. north of Davis Creek, where we made a night camp, says: "Mrs. Austin was a fine botanist and knew every plant [of this region]. She could tell you the name of every plant you brought her".

\* opposite the north Davis School.



- Geese were looking around the lake all last night.
- *Verbascum Thapsus* occurs near North Davis School. Dense colonies of it occurred in the very desolate sage-bush valley in a wash a few miles northeast of Susanville. It seemed a strange place for it.
- *Populus trichocarpa* and *truncatoides* *velutin* *Alnus* and *Davis Creek*.
- There occurs here: *Prunus emarginata* Walp., *Chrysothamnus* <sup>\*</sup> no. 2808, *Astragalus tridentatus*, *Juniperus occidentalis*, *Pinus ponderosa*.
- On the blocks of rock above the *Prunus subcordata* thickets one finds the flat surfaces with neat patterns of the flesh of the fruit. The chipmunks eat off the skin and flesh in neat fragments in order to make

\* The most common bush after Sagebrush.

away with the stone and its kernel. One would think the flesh would appeal to them but they know best what they want.

- at a turn of the road on a head-land\* near the lake we stop to look at cut Juniper poles by the roadside.

| No. | Length ft. | Diam. in butt. | Diam. in tip |
|-----|------------|----------------|--------------|
| 1 - | 37 1/2     | 10             | 3            |
| 2 - | 45         | 17             | 4            |
| 3 - | 50         | 22             | 4            |

The above are in inches. The logs are very <sup>diameters</sup> straight. Their straightness made a remarkable impression on me, as well as their comparative slenderness (*Juniperus occidentalis* Hook.)

In Horse Valley the telephone poles consist of a Juniper post in the ground holding a pine mast <sup>post</sup>. Sometimes one sees all-Juniper poles for telephone wires. Juniper is commonly used for posts in fencing throughout this region. Also for fuel. The settlers

\* Town slopes Sugar Hills. See p. 170.



will not use pine when they can get Juniper.

- Goose Lake freezes over in the winter. It has trout.

- At this point are:

Lower Slope Sugar Hill\*, west:

- *Pinus ponderosa* Dougl.

- *Canadensis prostratus* Bth.

- *Amelanchier alnifolia*

- *Prunus emarginata*, the small narrow-leaved type of the exposed Sierra slopes.

- *Prunus demissa*

- *Cercocarpus ledifolius*,

forming extensive dense thickets after the fashion of high chaparral in Southern California.

This, here, is 8 to 12 feet h.

- *Juniperus occidentalis*

- *Iva axillaris*, towards Davis Creek.

no. 7831. *Purshia tridentata* DB.

no. 7832. *Lygodesmia spinosa*

See p.

no. 7833. *Symphoricarpos*

Sugar Hill. Berry white. Roundish bush 4 ft. h.

no. 7834. *Eriogonum vimineum*

5200 ft. Coloring fields pink-red.

I notice an area of 3 acres as pure, even and uniform as a lawn. Handango Creek above Buck Creek.

no. 7835. *Artemisia ludoviciana* Nutt.

with 7834.

no. 7836. *Chrysothamnus viscidiflorus* (Hook.) Nutt. 6100 ft. Summit Handango

Pass. Bushes 10 in. to 16 in. h.

warmer mts.

no. 7837. *Prunus emarginata* Waepp.

Summit Handango

Pass, warmer mts. Slender trees, 14 ft. h. up to



See p. 178  
which this p.  
follows

Surprise Valley, Modoc Co.

No. 7838. *Amelanchier* <sup>*pallida*</sup> ~~*alnifolia*~~ Nutt.

~~*pallida*~~ Summit Fandango Pass,  
Gipson.

Warner Mts. 4 ft. h. 6100 ft.

No. 7839. ~~*Chenopodium*~~ <sup>*Haplopappus Bloomeri* Gray</sup>  
det. R. B. G. J. Feb. 25, 1964.

Ray 4 and 3. Very strongly  
scented with a heavy penetrating  
turpentine odor. Near Fandango Pass,  
below the pass 800 ft. on east slope  
5300 ft.

No. 7840. *Cirsium* <sup>*occidentale*</sup> ~~*condidissimum*~~

Heads crimson. with

7839. Heads panicled. Plants 3 to 3½  
ft. h.

No. 7841. *Lupinus laxiflorus* Dougl.

Many-stemmed from the  
crown of a stout tap-root. Fls.  
light blue. Fields, Surprise Valley.

No. 7842. *Gallium* <sup>*grandiflora* Dougl.</sup> ~~*linearis* Nutt.~~

Fields, Surprise Valley, also  
at summit Fandango Pass.

4750 ft. Aug. 6, 1918

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No. 7843. *Cryptantha ambigua* (Gray)  
~~Gray~~ with 7842. <sup>*C. hendersonii* Piper</sup>

occ. R. B. G. J.

No. 7844. *Chaenactis*  
with 7842.

No. 7845. *Eriogonum nudum* var. *pubiflorum*  
Fls. sulphur yellow.

with 7842.

No. 7846. *Oenothera hookeri* T. & G.  
Fls. large, yellow.

Forming a dense pure colony of 1/10 of  
an acre. with 7842.

No. 7847. *Rosa woodsii* Lindl. var. *alt-*  
*ramontana* Gipson. with 7842,

No. 7848. *Tetradymia canescens*  
with 7842. Dc.

No. 7849. *Erysimum repandum* L.

This crucifer grew  
with 7842.

No. 7850. *Erysimum repandum* L.  
~~*Sisymbrium altissimum*~~

This crucifer formed  
pure stands 9-13 in. high, very  
rigid now, and difficult to walk  
through. The pods actually become



like spines, so rigid and stiff are they, as well as the whole plant. Covered an acre or perhaps several acres in all, without admixture of other plants. The plants are more widely spreading than would be indicated by the spm. All the branches spread widely, including the pods.

No. 7851. *Eriogonum vamineum*

4750 ft. Fls. pink (v. m.)  
(*E. neglecta* Wallr. (acc. C. V. M.))

✓ No. 7852. *Malva rotundifolia* L.

4750 ft. Branches reclining,  
from a heavy tap-root.

— Nos. 7841 to 7852 were taken from a very dry gravelly field near Fort Bidwell, in Surprise Valley.

We were told back on the Alluvial Road that we could not get across by Fandango Pass. This road across the barriers is the best road yet!!

Aug. 6, 1918.

— Leaving Davis Creek we run along the border of Goose Lake as far as Fandango Creek, on the way coming westward round the lower slope of Sugar Hill. We pass thru a forest of *Pinus ponderosa* and *Juniperus occidentalis*. It is from this mixed forest that the slender slender pole of *Juniper* came (see p. 169). We pass up Fandango Creek\* thru the same forest (<sup>also</sup> *Populus trichocarpa* and *P. tremuloides* along the stream in the deep and narrow cut) and come out suddenly above Buck Creek (a north lateral of Fandango Creek) on to an area of bare sagebrush country — marked contrast! Nearer the summit of Fandango Pass we come into the forest again and at the summit I note the following plants: See p. 176

Along Fandango Creek I notice: *Ceanothus velutinus*, *Purshia tridentata*, *Veratrum Californicum*.



## Summit - Handango Pass.

- *Abies concolor*.
- *Pinus ponderosa* Dougl.
- *Purshia tridentata* DC.
- *Anacanthus* (same as 7828).
- *Cercocarpus ledifolius* Nutt.
- *Artemisia tridentata* Nutt.
- *Wyethia mollis* Gray. (Mule Ears)  
= 7861 same as
- *Prunus demissa* Dietr. Browsed by cattle.
- *Beauregardia villosa* Dougl.
- *Beauregardia prostrata* Benth.
- *Epilobium spicatum* L. (Hire-wee).

At the summit of Handango Pass we come suddenly into view of the great Upper Lake Bottom with a desert range beyond. Its bed is dry but does not look like a flat lake bottom but refracts light in such a way as to make one think he is looking into the bottom of the world.

Aug. 6, 1918.

The opposite range seems to rest on the edge of a bottomless cavern, sandy or muddy-colored. One can jump off this range and go down into the bottomless pit; so perfect is the illusion. At times, as one turns one's head, you get the idea of the opposite range being reflected in the muddy bottom, light brown or sandy in color, as if the lake had water for reflection. There is the struggle here between one's imagination and one's reason. One has to struggle visually to make the place what it is, a flat lake bottom, muddy brown and yellow streaked. We are looking down into the valley of the Jordan or some other Palestine lake-bed valley and it is easy enough for the patriarchs of old to conjure up the idea of a hell, not only abstractly, but concretely, from such a prospect of nature.



The eastern wall of the Warner Mts. falls off abruptly just like the Sierra Nevada. We go on down the eastern wall by an excellent grade to the valley floor and turn up to the head of the valley along the base of the range and enter the Land of Canaan, a land flowing with milk and honey. It is a small farming community but in rich soil and with a stream from the Warner Range flowing past every ranch house. See how good God is, said the <sup>pious</sup> Mormon, to cause a stream to flow past every farmer's door! Near the upper end of the valley we stop and botanize in a dry gravelly field (pp. 172-174 follow here). From this point we can see the dense cluster of trees sheltering the small town of Fort Bidwell a quarter of a

mile away, with the white building of the Indian School to the west and the Indian village to the south of the school, its habitations nondescript in style and color.

We meet R. F. McConaughay who settled here in 1865 and fought the Indians. His right arm was shattered by an Indian bullet but it seems as good as ever today. He built the first log dwelling. It is still standing near his modern house on the main street. He generates his own electric light, so he has moved ahead with the times. Major Bidwell with his soldiers came in, in the summer of 1865, and established the fort, after McConaughay came. This was the later General John Bidwell.

We go up Fort Bidwell Creek, north fork, 6 1/2 miles, and camp.



No. 7853. *Mimulus guttatus* DC. Det. A. L. G.  
5900 ft.

No. 7853a. Spreading round herb  
3-5 ft. h. Berries red, a little  
depressed globose. Dry flat.

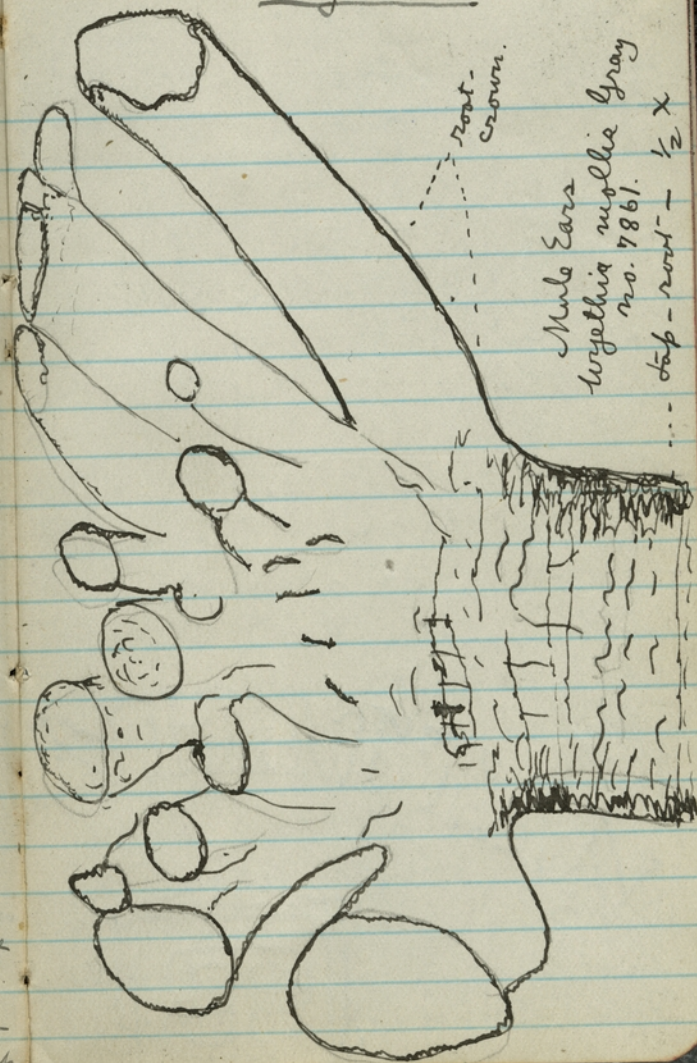
No. 7854. *Chamaejasme nana*  
Gray. 5900 ft. Berry size of a  
large marble, dull white\* when  
fully ripe, the clusters disposed  
to hang or lie against the  
ground. Dry sandy\* gravelly  
flat. Stems spreading. Berry  
when fully ripe curves down into  
the loose loamy soil and is  
of a yellowish cast!

\* not when fully ripe.

- Lying around on the surface  
of ground amongst the Mule Ears  
on the flat on the mountain  
side above camp are black root  
- crowns with portions of the tap-  
root. There belong to the / Cont. p.

\* = loamy - sandy - black or dark

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Mule Ear and have been plowed up by the settler on the flat. The top roots are 4 inches in diameter! The sections show rings 14 to 25 years in a section 2 1/2 inches across. The wood is filled with yellow secondary ducts and the bark of the root is rough and very distinct.

No. 7855. *Minulus moschatus* Dougl. <sup>Det. A. L. G.</sup>

6100 ft. Cor. yellow, its lobes equal but spreading in such a way as to indicate an irregular corolla, the 2 upper lobes recurving, the lower 3 spreading, but the whole corolla limb plane and a little oblique to the tube. Palate of lower lip with flashing lines of brown-purple and brown dots. Very glaucous.

ular herbage. Ditch banks. 6700 ft.

No. 7856. *Lupinus caudatus* Kell.

Cor. light blue. 1 to 1 1/2 ft. h. Dry hills.

No. 7857. *Calochortus macrocarpus*

Dougl. Petals lilac, obovate, strongly apiculate, a broad green midband on the back. Lower third of petal white, the 4-shaped gland central on the white, yellow hairs scattered about the gland, stiff, often forked at tip. Base of lower third with a flare of lilac. 7500 ft.

Gland of *Calochortus*

The notch is toward the base of the petal





The gland is high-walled with sharply defined walls. If one draw a line from base to base of the legs of the gland one has an isosceles triangle. The sepals are narrow and regularly long-lanceolate and stand out at an angle of about  $45^\circ$  making a sort of star about the petals. The sepals have a character, in their stiffness and long points, which is distinctive but not easy to describe tho' it could be well shown in a drawing. We find only three individuals, in all cases protected by bushes from cattle. See p. 186.

— We leave our camp in the cañon bottom of Bidwell Creek North Fork and climb up the steep wall thru a forest of *Pinus ponderosa* and *Abies concolor*.

We come out into a flat covered with Mule Ears (no. 7861) and *Chamaesachne* no. 7854. There is a great quantity of the latter and of course extensive slopes of the former, which always grows on rich loamy-gravelly flats. We pass up a draw (in which are colonies of *Veratrum Californicum*) around a high hill the easterly slope of which is covered with a dense thicket of *Prunus emarginata* and *Artemisia tridentata*, the two closely intermingled. Up over a rocky escarpment\* and then over a broad plateau (mainly *Artemisia tridentata*) to Mt. Bidwell, a rocky point falling off in cliffs to Surprise Valley. Near Mt. Bidwell summit is a grove of *Pinus albicaulis*. One fallen tree is 30 ft. h. and  $3\frac{1}{2}$  ft. diam. at base. The trees are well fruited with full-size purple cones which are not, however, yet  
\* a clump of *Prunus demissa*.



ripe. The trees are taller than one usually sees them in the Sierra Nevada. We pass one solitary small tree of *Pinus murrayana* on the plateau.

The cattle have milled over every foot of the mountain and botanizing is exceedingly poor. I was never on a mountain of this altitude where collecting was so unsatisfactory. See p. 184, re. few individuals of *Calochortus* 7857.

No. 7858. *Symphoricarpos*

Flat at 6500 ft. Berry elliptic, white. Browsed by cattle.

No. 7859. *Prunus emarginata* Walf.

The Bitter Cherry of this region is like the *Prunus emarginata* of the high open <sup>rocky</sup> slopes in the Sierra Nevada. This broad-leaved specimen I have from an

individual growing in the shade of fairly dense *Pinus ponderosa* and is, I believe, simply an adaptation to shade and moisture conditions. 6600 ft.

No. 7860. *Ribes cereum* Dougl.

Berry red! 5 ft. h. roundish shrubs. Forming little thickets on a flat at 6500 feet, but also occurs on my summit. See 36:37.

No. 7861. *Wyethia mollis* Gray.

See sketch of root-crown p. 181. Common or nearly all the mt. plate. 6500 ft.

No. 7862. *Achillea lanulosa* Nutt.

7000 ft.

No. 7863. *Gayophytum lasiospermum* Greene. 7000 ft.

No. 7864. *Sidalcea glaucescens* Greene. 6800 ft.

No. 7865. *Erigeron umbellatum* var. *polyanthum* 7500 ft. Rock rifts.



No. 7866. *Phacelia compacta* Greene.

See p. 126.

7500 ft. Rock rifts.

No. 7867. *Bastillea linariaefolia*

Bth.

7500 ft. Rock rifts.

No. 7868. *Monardella odoratissima*

Bth.

ssp. *glauca*

7500 ft. Rock rifts.

No. 7869. *Symphoricarpos*

7500 ft. Shrub 4 ft. h.

Berry red-brown at this stage, oblong.

No. 7870. *Chrysothamnus* <sup>*nauseosus*</sup>

var. *speciosus*

(Nutt.) Hall

Spm. nearly full height of bush. 7500 ft.

No. 7871. *Eriogonum spergulinum* var.

*spergulinum*

7800 ft. Sandy loam.

No. 7872. *Pentstemon gracilentus* Gray.

7800 ft. cor. limb blue-

purple, tube red-purple.

No. 7873. *Helenium Hoopesii* Gray\*

I have seen more of this today than in all my trips into the Sierra Nevada, many times over. I

\* Coll. at 8000 ft.

think. I notice one colony of it in a swale - flat near the summit of the mountain, pure colony 2 acres in extent. The cattle do not touch it - except

rarely, and then apparently only the inflorescence. Nearly past anthesis <sup>carquile</sup>

No. 7874. *Chrysothamnus viscidiflorus* var. *puberulus* (O.C. Eat.) Teps. Twisted-leaf Rabbit-Bush.

Low, on top of the mt., the spurs = full height 8100 ft.

No. 7875. *Holodiscus* <sup>*microphyllus* var. *glabrescens*</sup> ~~*holodiscus*~~ var. *dumosa*

var. *Dippel*. This *Spiraea* grew in the rocks on the very summit. Fls. white, 1-2 ft.

h. 8225 ft. = var. *glabrescens* Jepson.

No. 7876. *Ribes cereum* Dougl.

Berry red, in rocks

at very summit, 3½ ft. h. 8225 ft.

No. 7877. *Epilobium obovatum* Gray.

See p. 199. 8225 ft. Corolla crimson. Re-  
clining amongst rocks, very summit.

No. 7878. *Potentilla glandulosa* Lindl. var. *pumila* Jepson. Very summit. Cor. pale yellow.



No. 7879. *Parya menziesii* Greene.

This crucifer grew in rock on the very summit. 8225 ft.

No. 7880. *Heuchera* <sup>*cylindrica* var.</sup> *glabella* (T. & G.) ~~Jeps.~~

This saxifrage grew at the very summit, forming mats in rock clefts. 8225 ft.

No. 7881. *Chrysothamnus* <sup>*viscidiflorus* var.</sup> *puberulus* (D.C. Eaton) ~~Jepson~~

8200 ft. Plateau summit. 5-7 in. h.

No. 7882. *Artemisia* *tridentata* ssp. <sup>*tridentata*</sup>

8200 ft. Plateau summit, 5-12

in. h.

No. 7883. *Pentstemon*

Rocky summit. Cor.

Limb deep blue, tube red-purple. 8100 ft.

No. 7884. *Ligusticum* *Cusickii* C. R.

= *L. grayi* C. R. This umbellifer was very abundant on a gently sloping north slope near *Pinus albicaulis*. Its leaves were flat on ground and apparently it is dwarfed

Aug. 7, 1918

down by cattle. This sp. an exceptionally large individual. 8100 ft.

No. 7885. *Aster* *alpinus* ssp. *Andersonii* Pseudo-meadow on (Gray) <sup>open</sup> summit. Flat against ground, [dwarfed by cattle?]. Rays blue. 8000 ft.

No. 7886. *Arenaria*

Needles as sharp as this?

fles. Painful to handle! Swale below

*Pinus albicaulis*, north slope. Cor. white. 8000 ft.

No. 7887. *Arabis* *platysperma* Gray

8225 ft. On very summit.

No. 7888. *Cirsium*

At 8220 feet.

No. 7889. *Gayophytum* *helleri* Rydb. var. <sup>Jepson</sup> *erosulatum* 8100 ft. Plateau summit.

No. 7890. *Eriogonum* *heracleoides* var. *angustifolium* 8100 ft. Plateau summit.

No. 7891. *Bolopodium* <sup>*Spraguea umbellata* Torr.</sup>

8000 ft. Swale, north slope,

plateau summit.



No. 7892. *Silene*

7500 ft. Cor. white.

No. 7893. *Arabis* *gallii* Wats. = *A. drummondii* Gray. This crucifer grew on a north slope same. 8000 ft.No. 7894. *Erigeron filifolius* (Hook.) Nutt.

7500 ft. Rays blue. Rocky slope.

No. 7895. *Eriogonum elatum* var. *elatum*

7500 ft. Rocky slope

No. 7896. *Streptanthus crotatus* Nutt.

7500 ft. Rocky slope.

-Cont. no. 7857. Petals involute from each side at night? at least toward sundown, leaving the stigma exposed in center. Petals paler on outside. Sepals uniform pale lilac inside, whitish outside, without markings.

No. 7897. *Hieracium*

8225 ft. Very summit.

No. 7898. *Sedum stanopetalum*

Pursh. 7500 ft. Rocky slopes.

No. 7899. *Eriogonum ovalifolium* Nutt.

Fls. pale-sulphur yellow.

- *Populus tremuloides* occurs in male on the summit and half way up.

The mortality in these colonies, during the last winter as two, has been very heavy - 60 to 80 per cent.

The individuals stand about 4 to 6 feet high, 7500 ft.

- *Ceanothus velutinus* occurs in colonies well up. Apparently not browsed by cattle.

No. 7900. *Sorbus* <sup>*scopolina* Greene</sup> ~~*ritchensis* Roem.~~  
<sup>*var. densa* Japson.</sup>  
6000 ft. N. Fork Bidwell Creek. Cañon bottom.

No. 7901. *Smilacina* <sup>*racemosa* var.</sup> *amplexicaulis*  
(Nutt.) Wats. with 7900. 6000 ft.  
<sup>*Rorippa curvifolia* (Hook.) Bessey</sup>

No. 7902. (*Rorippa*) *sinuata* Greene var. *integra* Japson. 6000 ft. with 7900.

No. 7903. *Juncus sphaerocarpus* Nees

8100 ft. Summit - Mt. Bidwell.

No. 7904. *Pinus albicaulis*

8100 ft. Summit - Mt. Bidwell.



194 North Fork Bidwell Creek, Aug. 7.

- *Pinus Lambertiana* Dougl., only a little in this range. - N. Fork Bidwell Creek
- *Libocedrus decurrens* - N. Fork Bidwell Creek.
- *Amelanchier alnifolia* - Mt. Bidwell
- *Pterospora andromeda*, N. Fork Bidwell Creek
- We come down Mt. Bidwell in the same way that we went up except that, descending, we come down a stream lateral, after reaching the large flat just above the cañon wall proper. Along this little stream are *Populus tremuloides* and *trichocarpa*, both sizable trees.
- Our camp is in a delightful spot, a little clearing surrounded by yellow Pines and white Firs 150 ft. h., at a spot where the cañon broadens a little. Sutton has caught two species of trout in the stream and coming down Bidwell I flushed Grouse  
↑ Mt.

N. Fork Bidwell Creek, Aug. 8, 1918.

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twice, 4 in each case.

No. 7905. *Sagina saginoides* (L.) Karst. var. *hesperia* Fern.

This *caryophyll* is common in the stream bottom (moist places). 6000 ft.

No. 7906. *Corrus stolonifera* Michx.

Common in the stream bottom, 5 to 10 ft. h. 6000 ft.

- We run down the cañon to Ft. Bidwell and camp in a clean spot amongst the willows in the Indian Fair Grounds just off the road. It seems odd to regard this desert landscape and yet see no *Populus Fremontii*, even as a planted tree. It surely cannot be too cold in the winter but the winter low temperatures may be too prolonged for it.

The first white woman in Surprise Valley was Almira Bissell. The lake (Upper Lake) was named Almira Lake, for her, and the name should have been retained.



- Dutton is great for foraging and this morning early he went down the road calling at the farmhouses, trying to buy bread, which is a very scarce article here now. At the third farmhouse he found some <sup>one</sup> up but the man said he could furnish no milk because he had not milked. Dutton said: "Show me the cows." He got in 3 cows, <sup>milked them,</sup> and brought milk to camp as a luxury. He remarked that he had not milked in so long a time that after a few pulls his hand felt that it could not close on a twenty dollar gold piece.

Dutton says that he was offered by Dudley a place in the Dept of Systematic Botany <sup>at Stanford University,</sup> at \$750 <sup>per</sup> year, pick and shovel wages, was at that time. He looked over the situation, saw what was ex-

pected of a professor in the way of expenditures, compared it with the wage, and determined that it was not <sup>for him</sup>, that he wanted to live, and not merely exist.

- Apricots and early peaches are now fruiting here.

- Beatty, a farmer came here in 1863. He was in a big Indian fight, east of here, in early days, in which after the fight he counted, as official tallyer, 96 dead Indians. He says General Bidwell was not here when the fort was built, but that he had been in here earlier surveying the country and roads in a general way and designating certain spots for particular purposes.

- Called on Mrs. M. H. Manning, who has lived and collected in this region since she left Hupa. She has only a small bundle of plants left.



Ft. Bidwell, Aug. 9, 1918.

modoc Co.

- Howell's Flora of Northwest America  
 Fascicle 1. Pp. 1-112. 3/15/'97.  
 " 2. " 112-274. 4/1/'98.  
 " 3. " 275-378. 8/21/'00.  
 " 4. " 379-474. 3/21/'01.  
 " 5. " 475-562. 7/20/'02.  
 " 6. " 563-666. 7/20/'02.  
 " 7. " 667-792. 7/20/'02.

Cont. bottom p. 199

(see p. 197)

Mrs. Manning has a complete copy of Howell's Flora in the original covers and from the parts I take the dates of issue as above, which dates do not appear in the cloth-bound copies. Mrs. Manning is just on the point of leaving here, going to Los Angeles to live with a step-daughter.

No. 7907. *Cryptanthus torreyana* Greene.

N. Fork Bidwell Creek, 6000 ft.

No. 7908. *Prunus* ~~*americana*~~ *distica*  
*virginiana* var. *melanocarpa*

with 7907. 6000 ft.

Ft. Bidwell, Aug. 9, 1918.

— *Epilobium obcordatum* Gray is distinctively a rock plant and its large crimson flowers are most charming. It is one of the delights of the alpine heights. I found it on the very tip of Mt. Bidwell. See no. 7877.

— Almira Bissel was the first white woman settler in Surprise Valley. After her the lake was named, Lake Almira; a much better name than Upper Alkali.

— The summer is very cool in this region this year and we are enabled to get about and work in the open to great advantage.

cont. from p. 198. The dates do not agree with my copy which is imperfect as to Fasc. 4 only.



Berkeley, 1919.

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See p. 83 above. - Continued.

- I have never been able to understand the reliance placed on the old-time revolver by all early-day pioneers and frontiersmen. It was always considered a great feat to shoot straight with a revolver, much was made of skill in shooting at a mark, but in a melee, in a free-for-all-fight, in a duel it was less commonly that any one was hit. More often no one was hit. That is why we so often read of numerous shots being fired and no one being killed, often no one hit. For defense there is nothing to equal a shot-gun with buckshot. In all my travels about California I have never gone armed, - not if I did, the shot-gun for us.

- Avalanche Lily = *Erythronium montanum*. Also called Deer Tongue & Ladies Tongue Flett, in "The Mountain that was God" by Williams.
- *Xerophyllum tenax* Nutt. Called Mountain Lily and Squaw Grass by Flett &c.

- The letter of Miss Lord, p. 112, supra, is in letter file under Lord, year 1918.
- Cont from p. 113. Heller states in Muhl. that Duffield Ranch is near Auburn. I wrote at once asking the source of his information. His reply is in letter file, Aug. 26, 1920.



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Addresses, Ukiah

- Lewis Romer, ranch near  
Gould Ranch.
- Arthur Romer, son
- Martin Romer, small son.



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